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EDITED BY WILLIAM HUNTING, F.R.C.V.S.

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THE INTERNATIONAL VETERINARY CONGRESS.

Mr. Stewart Stockman, the secretary of the Organising Committee, has issued a notice calling a meeting to report progress. This Committee at present confines its attention to the collection of funds, and a heavy task they have. The Congress will not be held in London till 1914, but it was thought that many men might give a subscription annually, which would total an amount before the meeting in excess of any sum payable at one time. Some few handsome donations have already been made. A number of annual subscriptions are promised, and most of the Veterinary Societies are giving help. Although membership of the Organising Committee is not limited to subscribers of ten guineas, anyone who chooses to subscribe that sum automatically becomes a member. Gentlemen desirous of contributing, or of joining the Committee, should communicate with either the secretary, Mr. Stockman, or the treasurer, Mr. Garnett.

THE ROYAL VETERINARY COLLEGE.

Every one knows that there has been a falling off in the number of students joining veterinary schools. Probably we have now reached bottom, and pupils will gradually increase in numbers. We make this anticipation not from merely a lively optimism but because there are even now openings for veterinary surgeons in excess of efficient men to enter them.

In the meantime Veterinary Schools suffer financially, and the oldest of the schools has been hard hit. On another page we reprint from *The Times* a long article pleading for Government aid. The arguments of the writer seem to us weighty and clear—in fact unanswerable. What the veterinary profession has returned to the public for the voluntary contributions and the State assistance which enabled veterinary science to make a beginning, more than repays any debt we incurred. There are still diseases to conquer, still researches to make, and any check upon veterinary progress would now be a drag upon preventive medicine.

We sincerely hope that *The Times* article will attract wide attention, and that the Royal Veterinary College will receive the Government help it needs and deserves. It seems curious that while "Retreats for Aged Animals," "Sanatoria for Cats," "Dumb Creatures Associations," etc., can collect what money they want, the Royal Veterinary College never receives a legacy, but is expected to provide every subscriber of two guineas with three guineas worth of advice and material. The College has been too modest. It must follow the example of the Hospitals, and make its appeals to the public loudly and incessantly.

THE MALLEIN TEST AND ITS "VAGARIES."

By H. G. SIMPSON, F.R.C.V.S.

So much has been written on the subject of Glanders and the Mallein Test, and so ably and exhaustively has it been propounded by many eminent professional men that it would appear incongruous and superfluous to add to or detract from what appear unquestionable conclusions. I venture to think, however, that a discussion on what might be termed its "vagaries" may prove interesting to some who have been inclined to pin their faith to a hard and fast rule in diagnosis. Very few will question the obvious character of the symptoms produced in a definite reactor, and nobody is likely to make a mistake in a non-reactor, but the cases I wish to draw attention to are those in which either or both the thermal and local disturbances are of such a character as to leave a doubt whether one might safely give an opinion on the result of two testings, as they often require to at present.

I have been fortunate, inasmuch as I have been enabled to keep under close observation several horses that might be described as the "tail end" of an outbreak of glanders—horses which were included in an official County Council test and which (under present regulations) after the second test had to be pronounced free or infected upon the reading of the mallein test. These are the horses which I think any veterinary inspector will agree cause him many pangs and heart burnings.

As the position stands at present, should an inspector be in doubt as to the reading of the first test, the horse is very properly put aside for a further test, but no further official opportunity of watching a suspicious horse is *legally* afforded an inspector after his second test—at the expiration of that period he has to say definitely "passed" or "condemned" and the horse is lost sight of afterwards. Should he condemn the horse on a *suspicious* but not definite reaction and the post-mortem reveal no glanderous lesion, his Council through his act become liable for full compensation, and the test is possibly held up to ridicule as unreliable. On the other hand should he pass the animal and the horse show evidence of the disease later on, suspicion is cast on his judgment, and horse-owners will again comment severely on the supposed infallibility of the mallein

test. The majority of horseowners are in favour of the test, and even when the "official" supervision of a stud had ceased after the second test, if the inspector communicates to them his suspicions of certain horses, they will, in their own interests isolate and keep these animals under observation till a more definite opinion can be arrived at. There is, however, no power over the unscrupulous owner, who is at liberty to distribute suspicious horses broadcast and possibly create fresh centres of infection. If glanders is to be eradicated (and there is no reason why it should not be) veterinary inspectors must be granted increased powers in dealing with "suspicious" horses.

In a small way to demonstrate the necessity of a proper supervision on "suspects," I will quote three cases:

No. 1. Bay Mare (23). Tested twice by Council, and after a *suspicious but indefinite* reaction paseed out of official control; was sent to an isolation depot and became "clinical" within a month.

No. 2. Roan Mare (2875). Tested officially twice, and after a *suspicious but indefinite* reaction passed out of official control; was sent to an isolation depot and became "clinical" in ten days.

No. 3. Roan Mare (2959). Tested four times under Inspector "A," and after a last suspicious reaction removed to isolation depot in Inspector "B's." district, who condemned her on his second test with an indefinite reaction; her post-mortem showed glanders.

In the above, the first two cases became "clinical," one within a month and the other within ten days of having given indefinite final reactions—and here comes in the hardship to horseowners. Two working animals valued at £40 apiece at last test would have reimbursed their owners to the extent of half their valuation, whereas the result of the final test being still indefinite and insufficient to warrant the Local Authority risking the chance of having to pay full value at the time, they become what are commonly known as "forty bobbers" shortly afterwards, the expense then falling on the owners. Apart from this there was the chance of their creating fresh centres of infection, as the Local Authority had no *legal* control over them, and it was discovered on post-mortem that Case 1 had lesions in the trachea. Case 3 is one that theoretically might have cast reflections on the inspector who in the first place lost legal control over her in her first testings. As the second test was not conclusive she passed out of the control of Inspector "A"—she was condemned by Inspector "B" (into whose district she was moved) after two subsequent testings by him, both of which were indefinite, her condemnation ultimately being decided chiefly on perusing the suspicious but indefinite character of no less than six previous testings, none of which were sufficiently characteristic to condemn upon under the present regulations.

We require legislation to have power of control over any "suspicious" animal, but it must be of such a kind that it will not irritate or disorganise working efficiency. It will require the co-operation of owners to render it efficient—this will undoubtedly be forthcoming if it can be demonstrated that the scheme is beneficial to both sides.

In my opinion "indefinite reactors" should be scheduled by the local authority and tested at as short intervals as is practicable by inspectors. They should as far as possible be stabled apart from other horses and worked together; should it become necessary to remove them to another district under the same ownership the veterinary inspector of that district should be advised, and he will continue the observation. Should the animal be a good worker, the owner will not desire to part with him, and he will probably remain with him till he is "cast" or dies, or possibly breaks down and becomes "clinical," thus the official observation should not be onerous. Should a firm object to have "suspicious" horses in their stud, and prefer to decide "yes" or "no" on the second test, it should be possible to have a scheme whereby in the agreement of the parties concerned the animal should be slaughtered (provided the inspector cannot say "non-reactor free"). In such a case, should the post-mortem reveal glanders, the usual half value compensation will be paid; but should there be no evidence of glanders, it is unreasonable to expect the local authority to defray the whole of the value, but half-value should be paid, and a scheme devised by which the cost of the remaining half-value could be borne partly by the owner and partly by the local authority, *e.g.*, supposing the value to be £40, and the post-mortem show no glanders, the owner should receive £30, in which case the owner and the local authority share the loss. Should a "suspect" become "clinical" while under observation he should be treated as a reactor and half-value compensation allowed. It is possible that this last eventuality would not often occur, as in the event of a scheme of sharing the value of indefinite reactors after the second test being agreed to, many owners would prefer to slaughter their suspects and so ensure a "clean" stud.

The Relative Significance of the Local and Thermal Disturbance.

The question has been raised as to whether the thermal or the local manifestation is most to be relied on as indicating a reaction? Although it is agreed that the "typical" reaction is, of course, a combination of both, yet the opinions of many are divided, some being guided by a partiality for thermal and others for local degrees of disturbance in a questionable reaction. Speaking for myself (and, of course, admitting the "typical" reaction) I confess that I incline more to a partiality for certain characters of the local manifestation in doubtful cases. I base my inclination chiefly on the results of observation from just over 2,000 applications of the test during the last eighteen months, and from which I have drawn the cases enumerated in the attached tables. It may be said that the fact in many cases of my gauging the temperature from the 12th hour after inoculation and not the 9th is insufficient evidence to cast reflections on thermal disturbance, but this has been done chiefly owing to circumstances compelling the test to be employed

at such times as the horses could be spared, and where it was at great inconvenience, to ascertain the 9th hour temperature in a large batch of tests. In any case where the temperature has manifested any indication, it has been credited with it. In many cases no temperature disturbance was manifested till the 12th, and even the 18th hour after inoculation in cases where the 9th hour temperature was taken.

No doubt there are many circumstances affecting an animal which predisposes to irregularities in temperature, and perhaps not the least of these is that of subjecting a horse (whose ordinary daily routine is probably between the shafts the best part of the day) to a 48 hours, and perhaps longer detention to the stable, as is often the case under the mallein test. For one thing he misses his stable companions alongside him, and hearing the noise of every day work outside, he frets himself. Although he may be quiet for a portion of the time, the majority of it is spent in "pawing" and moving restlessly about his stall. These moments of excitement are when one might expect to find an irregularity in an otherwise normal temperature record. Although perhaps under ordinary circumstance this fluctuation of temperature might not be noticed at a period during which an animal is under the test, it is worthy of considerable attention when the elevation or depression of a degree in the reading weighs heavily in the balance of deciding as to a negative, positive, or suspicious reaction, especially so when it has not been possible to take a normal temperature on two successive days preceding the test.

The effect of mallein on a healthy horse's temperature being *nil*, and the admitted effect on a glandered horse being a gradual rise, these awkward "jumps and falls" which are often experienced might in a measure be attributable to conditions extraneous to those of mallein injection. There is, however, no gainsaying the fact that the same horse may exhibit the same vagaries of temperature under the mallein test when his conditions and surroundings are more congenial to him.

A glance at the following tables will show that these vagaries are present in animals which on post-mortem revealed glanderous lesions in one or other of their stages, and will also show that they were present in animals which on post-mortem showed apparently no glanderous lesions, but there were present pneumonic or other organic conditions which may, or may not have been responsible.

In any case, I have not come across the post-mortem of a horse showing these vagaries during life in which I could detect on post-mortem no departure from the normal in some organ. Of all organs, the lung was that which most frequently showed the more extensive structural alteration. My experience has been that the injection of mallein into a (to all intents and purposes) healthy horse produces no effects either locally, thermally, or constitutionally; but this same experience has led me to the belief that the injection of mallein into an *apparently* healthy horse may at times give rise to symptoms which, although they cannot be construed as a "reaction," yet produce conditions which are abnormal and point to the existence in the body of some lesion other than glanders to which the injection of mallein is antagonistic. This, of course, raises the very wide question of whether mallein can be utilised for the purpose of diagnosing other diseased conditions than glanders?

The Relation Between Local and Thermal Reactions and the Number and Age of the Lesions found on Post-mortem.

As regards the scarcity or number of the lesions present I have ascertained no relation between these and the intensity or otherwise of the reaction produced; a practically mild reaction has often revealed on post-mortem a very heavy pulmonary infection and *vice versa*. If any relation does exist, I should be more inclined to advocate that the relationship is between the age of the lesions and the temperature reaction. I am inclined to believe that chronic lesions are less liable to produce a temperature reaction than recent ones, and that recent pulmonary lesions will tend rather to produce a temperature disturbance. In cases which on post-mortem revealed mixed chronic and recent lesions, and under observation for from 4 to 12 months (G.H. 2,657, R.M. 2,436, B.H. 3,255, and B.M. 31) it was noticed that in the first two or three tests practically no temperature disturbance was noticed and suspicion was only aroused by the "locals," whereas in the later tests, possibly owing to recent lesions making their presence felt, the temperature was more or less disturbed. This assumption of relationship is, however, modified in the case of B.H. 2,696, whose lesions were entirely chronic, and who on his last test at the expiry of 12 months showed a temperature reaction, and also to a lesser extent in the case of B.M. 3045.

As is the case with tuberculin, it is possible in chronic cases, no doubt, for the lesions to be apparently proof against the action of mallein, but one would expect this resistance to be constant unless there was definite evidence on post-mortem of the existence of more recent lesions to account for suspicious reactions. The cases, however, of B.H. 2696, in which there was no sort of suspicious reaction 2 months after a suspicious one, followed by a suspicious one 3 months later, and a practically good one 6 months following; and R.M. 2360 who, following a suspicious reaction, gave, after respectively 3 months and 2 weeks, no sign of suspicion, followed 6 months later by a typical "local"; and Ch.M. 2735, who, following a suspicious reaction, gave after respectively 2 months, 3 months, and 2 weeks, no reaction whatever, followed six months later by a typical local, and in whose cases the post-mortem revealed only chronic lesions and healed scars, would appear to somewhat negative an assumption that old chronic lesions do not respond to mallein, or might suggest that the presence of healed scars pointed to the theory that successive injections of mallein tend to exert a curative effect. At the same time, it is a little difficult to account for what one might de-

scribe as a "passive period" of 2 or 6 months in a case of indefinite reactions—a condition which can hardly be ascribed to a "tolerance" of the system for mallein.

It may be argued that these old chronic cases showing no clinical symptoms are not to be dreaded, inasmuch as they are not very liable to break down and may work for years provided they do not become re-infected, and that therefore any tendency for mallein in their case to show no reaction is not of the greatest importance. I have in mind at present at least one post-mortem which I made showing very chronic lesions, most of them calcareous, and others surrounded with a semi-fibrous capsule, with the deep lung tissue surrounding these lesions showing signs of disintegration; around this area there was a crop of recent nodules, and I am bound to say that, owing principally to the position of the recent lesions, I formed the opinion that this was not a new infection, but due to a breakdown of a portion of the chronic lesions liberating B. mallei which they enveloped.

Irregularities of the Local Manifestation.

One sometimes hears the remark "a typical local reaction," but it is at times difficult to associate a specific characteristic to the swelling of a reactor, unless it be a degree of tenderness—the contour and size varying considerably, and at times assuming an almost atypical appearance. I am of opinion that the chief characters of a positive local reaction are embodied more in the degree of pain and persistence present rather than in any specific size or conformation, although the latter often play an important part in diagnosis. I have become accustomed to describe my local manifestations under certain headings, according to the various contours and characteristics they assume, and I group them as follows:—

(1) "Bun-like"	Painful		
(2) Diffuse	Non-painful		Deferred
(3) Generalised	Persistent		Double
(4) Elongated	Non-persistent		
(5) Corded			

Whilst all the above are associated with reactors accompanied by pain and persistence, the most commonly occurring are the first three.

The "bun-like" reaction, when it appears, I should describe as the one more generally inclined to be characteristic; assuming the appearance of a piece of dough having been taken in the hand and thrown forcibly on the neck and adhering to the place it strikes. Its shape is circular, and its circumference sharply defined, the cutis is stretched tensely over it, and it has a marked and prominent appearance.

The "diffuse" swelling is one that is frequently met with and partakes more of the nature of an inflammatory slight thickening of the skin and subcutaneous tissues adjacent to the centre of inoculation; there is nothing definite about its shape or size, and it has no prominent appearance. To a casual observer there is not much to be seen, but palpation reveals a very decided feeling of "thickness" more or less diffused; I observed this local characteristic specially well marked in two indefinite reactors, which on post-mortem proved to be glandered (B.M. 527, and B.M. 2094), the former associated with very early lesions, and the latter with chronic one.

The "generalised" form I have only noticed associated with definitely reacting animals, and its character is very pronounced, especially as regards the manifestation of pain. From a very decided local reaction at the 12th hour the lesion extends more or less definitely up the neck almost to the ears on the affected side, and down and around the neck to the shoulder, and sometimes to the tissues posterior to the shoulder. The greatest sensation of pain is evinced with general constitutional depression. The animal starts away from an observer and groans even if the hand be raised without actually touching the part. When moved he does so with difficulty, and so to speak "all of a piece." Turning round affords him the greatest inconvenience, and in this form of progression the head is poked out and the animal has the appearance of a horse affected with tetanus. There is, of course, no question of "indefinite" reaction in such a case.

Deferred and Double Local Reactions.

These two forms are perhaps the most interesting of any local manifestations; the former certainly is rather dangerously interesting. I have observed them in both definite and indefinite reactors, one of the latter of which is still alive and has given no subsequent suspicious reaction of any sort. A close observation of horses under the mallein test will reveal the fact that the local disturbance varies very considerably in the time of its first appearance in a stud of horses; this period varying in some instances as much as from half-an-hour to three days, although, of course, the extremes are rare.

In some animals the introduction of 1 c.c. of mallein produces a slight prominence almost immediately, whilst in the majority nothing is observable after the finger is passed over the seat of inoculation to disperse the dose, but in some few cases I have observed that in the course of half-an-hour to an hour a large swelling two or three inches in diameter appears, which is quite dispersed in a couple of hours. I remember distinctly in a batch of a dozen horses I tested this swelling appeared as stated above, and the horse foreman came to me in great alarm to say that five horses had *already* started to react within half-an-hour; their temperature, however, showed no disturbance, and the enlargement had disappeared an hour afterwards, the animals subsequently passing the test. I do not know if others have had a similar experience, but it would be interesting to know if this is attributable in any way to the initial irritation produced locally by mallein in some horses, or whether it is the result of a needle injury to subcutaneous tissue. I may mention that I do not disinfect my needle after each injection, and have never experienced any ill effects in the way of local abscess formation from it.

In the case of reacting animals, the shortest period in which I was advised of an appreciable

local reaction was 3½ hours, when it was observed to be about the size of a small walnut, accompanied by pain. The latest period in a reactor in which a "deferred" local appeared was (the case of B.M. 527, Table 1) the 3rd day, and this was observed on harnessing the mare; the post-mortem 11 days later, when the test was re-applied and a reaction obtained, showing a very recent infection.

"Lungers."

In a London stable in the past this condition has been a "curse" to horseowners; there is not much doubt that before the operation of the Glanders Order many chronic cases of pulmonary glanders were included under this heading. Under it would also be included gangrenous pneumonia where the lesions were of the moist and evil-smelling type. In addition to this, there is frequently found at present on post-mortem of animals which have been subjected to several applications of the test and passed, a condition of the lung which presents areas of necrotic lung tissue, more or less pronounced, in a "dry" form—either as shrivelled up lung tissue, caseous or calcareous material, or an area surrounded by a fibrous capsule. The question presenting itself is, what was the initial cause operating to produce this condition? Is it due to a previous localised attack of pneumonia or is it the result of an attack of glanders which has become cured either spontaneously or by the action of mallein on the lesions?

I think it will be found that the past few years show a decrease in the percentage of lungers; due no doubt to a better system of ventilntion and management obtaining in stables, but also no doubt assisted by the operation of the Glanders Order.

To those inclining to a belief in the curative effect of mallein it would be interesting to be able to determine how many of these areas might be ascribed to previous ravages of the Bacillus mallei. A glance at Table 2 will show that the post-mortem of these animals showed no lesion which could be called "glanderous," although suspicion was aroused at the time of testing by "vagaries," but the lesions discoverable in the majority of cases were such as would usually be classed under the heading of "Lungers." It is perhaps only a coincidence that certain horses giving suspicious reactions show a "lunger" post-mortem, but it is cause for thought whether lungers may not in some cases be detected by a suspicion on the mallein test, and whether these "lunger" post-mortems are not dead glanders lesions which, either by the curative action of mallein or a natural process, have lost their virulence and are beyond response to mallein—in other words that they are cases of glanders which have become cured.

Summary.

(*A*) No. of horses after second test *legally* passing out of control of the Local Authority, but isolated and worked on suspicion:

2 became clinical within 1 month.
19 on p.m. showed glanders (Table 1).
7 on p.m. showed no glanders but "lunger" lesions (Table 2) 28

(*B*) Young horses entering which passed test on entry, but subsequently reacted and were found glandered (B.M. 527, Table 1) 1

(*C*) Period elapsing between detection of disease and slaughter of last suspicious horse, when application of test showed no reaction or suspicious horses remaining; 1 year, 9 months.

Table I.

Testing of Horses which on Post-mortem proved to be *Glandered* showing "Vagaries" of Thermal and Local Reactions

Bay Mare 2632.

Date.	At Inoculation.	12th Hour.	18th Hour.	24th Hour.	36th Hour.	Local Reaction.
Mar. 27, '09.	99·6	102·6	102·4	102	101	A fair sized local, painful, and persistent.
May 7,	100·6	103·8	100·4	100·2	100	" " "
July 5,	100·8	100	100	100	—	No local reaction,
Oct. 16,	101	101	101	100	100·2	A good local, painful, disappeared 3rd day.
April 24, '10.	99·6	100·4	101	101	101	Smaller than any above, painful and persistent.

Note.—For typographical convenience, the fractions in the temperature columns are given in tenths instead of fifths.

Post-mortem. Several chronic pulmonary lesions, many breaking down; several recent ones around those breaking down.

Remarks.—The temperature was not taken into account in this case, but the local reaction is a curious one. The first two tests produced good typical local reactions; the next test is negative, the subsequent ones producing a non-persistent swelling, and a later *small* persistent one. It is curious that in view of the fact that this case showed glanders lesions in practically all its stages no appreciable temperature reaction was recorded, and the local reaction was disappointing as compared with others. It, however, indicates that the severity or otherwise of the mallein reaction is no guide to the time of existence of the lesions found.

Bay Mare 2681.

Date.	At inoculation.	12th Hour.	18th Hour.	24th Hour.	36th Hour.	Local Reaction.
May 8, '09.	99	100·8	102	102	102	Slight, painful, non-persistent.
July 5,	100·4	102	101·2	101	101	Large, painful, persistent from Sunday till Friday.
„ 11,	100	102	102·4	102·4	102	Large, painful, persistent, and *a second swelling on the other side of neck at last week's inoculation.*

Post-mortem. Many chronic nodules; no recent ones.

Remarks. This case was judged entirely on the local reaction. The last test was performed a week after the preceding one in which there had been a good local reaction on the near side persisting from Sunday till Friday; on the Saturday the injection was made on the *off* side of the neck, and by Sunday night there was not only a good local reaction on the off side, but a correspondingly good one at the seat of inoculation of the previous week—both swellings were large, hard, painful, and persistent. This case is interesting not only as showing that a horse may give a local reaction to a second dose of mallein within the space of a week, but that in some cases a double swelling may be produced.

Brown Mare 3045.

Date.	At inoculation.	12th Hour.	18ih Hour.	24th Hour.	36th Hr.	Local Reaction.
May 8, '09.	101	100·8	101	101	101	Large, painful, persistent.
July 11,	100	103	103·4	103	103	„ „ „

Post-mortem. Many chronic lesions; no recent ones.

Remarks. This case was judged mainly on the local reaction, although the temperature of the last test also bore on the decision. From the character of the post-mortem lesions, they appeared considerably older than 2 months, and it is curious that no temperature reaction should have been recorded in the first test. From this one might say the local reaction is more dependable than the thermal as an aid to diagnosis.

Bay Horse 2751.

Date.	At inoculation.	12th hour.	18th hour.	24th hour.	36th hour.	Local Reaction.
May 8, '09	101·2	104·4	104	103	102	Large, painful, persistent.
July 11,	100	102·4	102	102	102	„ „ „

Post-mortem. A few chronic nodules; no recent ones.

Remarks. The local reaction was the principal guide in this case. The first testing showed a thermal disturbance which is not quite consistent with a reaction, viz., a high jump, with a gradual fall during the 36 hours. The second tess shows no very appreciable temperature reaction.

Black Horse 3116.

Date.	At Inoculation.	12th hour.	18th hour.	24th hour.	36th hour.	Local Reaction.
April 18, '09	101	103·4	104	102	102	Small, painful, non-persistent.
May 19,	100·8	101·6	103·4	103·2	102	Large, painful, persistent.
July 5,	100·2	104	104	102	102	„ „ „

Post-mortem. Many chronic nodules; no recent ones.

Remarks. This case would have been condemned on the first test, but the local reaction was very indefinite, The second test gave a good local and a very fair temperature elevation, he was, however, left for two months before deciding.

Bay Horse 2514.

Date.	At inoculation.	12th hour.	18th hour.	24th hour.	36th hour.	Local Reaction.
April 21, '09	101·2	103·4	104	103·4	103	Very slight, non-persistent.
May 18,	101·2	101.2	102·6	103·4	102·6	,, ,,
July 12,	100·2	103·2	103	103	102·2	Large, painful, persistent.

Post-mortem. Many chronic nodules; no recent ones.

Remarks. In this case the local reaction played no part in two tests, the first of which showed a temperature reaction. The very decided local reaction at the last test decided the question, although the temperature was not as indicative as in the previous tests.

Bay Mare 31.

Date.	At inoculation.	12th hour.	18th hour.	24th hour.	36th hour.	Local Reaction.
July 25, '09	101	105	104	102	101·6	Large, painful, non-persistent
Oct. 16,	100	101	105	105	104	,, persistent.

Post-mortem. Many *recent* nodules; no chronic ones.

Remarks. This case gave a very suspicious local reaction which, however, quickly dispersed, and this, in conjunction with a peculiar "falling" temperature, tended to the belief that it was not a reaction. The second test, with the exception of a sudden jump from the 12th to 18th hour in temperature, was typical. The lesions on post-mortem were very recent and the question is—if they would have been apparent on post-mortem at the time of the first test.

Bay Mare 2584.

Date.	At inoculation	12th hour.	18th hour,	24th hour.	36th hour.	Local reaction.
March 27, '09	100·4	105	102	101·8	101	Large, painful, persistent.
May 7,	100	102	102	102	102	,, ,, ,,
July 11,	102	103	103·4	103	103	,, ,, ,,

Post-mortem. Many chronic nodules; no recent ones.

Remarks. This case was practically judged by the local reaction which was a good one in each test, although almost entirely unsupported by temperature reaction on the first two occasions. The The jump to 105 at the first test in the first 12 hours and subsequenf fall to 102 six hours later *is peculiar.*

Bay Horse 2517.

Date	At inoculation	12th hour	18th hour	24th hour	36th hour	Local Reaction.
March 27, '09,	100·4	103·2	102·8	102	102	Large, painful, non-persistent
May 7,	100	102	102	102	102	,, ,, ,,
July 11,	100·4	101·4	103·2	103	102	,, ,, peristent.

Post-mortem. Many chronic nodules; no recent ones.

Remarks. The local reaction was the principle method of diagnosis in this case. In the first two tests they were unsatisfactory and unsupported by very definite thermal reaction. In the last the local was typical, and the temperature, although not very diagnostic, was better than the previous reading.

Bay Horse 3255.

Date	At inoculation.	12th hour	18th hour	24th hour	36th hour	Local Reaction-
May 8, '09	101·2	103·2	103	102	102	Large, painful, persistent.
July 11,	101·4	101	102·2	102	101·4	Very slight, non-persistent.
Sept. 25,	102·6	103·2	102	102	102	Large, painful, persistent.

Post-mortem. A mixed infection of chronic and recent nodules.

Remarks. In view of the good "locals" produced in the first and last tests, it is curious that no "local" appeared in the second test. The case was, however, decided on the local reaction.

Brown Mare 3237.

Date	At inoculation	12th hour	18th hour	24th hour	36th hour	Local Reaction.
March 27, '09,	102	103·4	103·8	102·8	102·6	Large, painful, non-persistent.
May 7,	103	104	104·4	103	102·4	,, ,, ,,
July 5,	101·6	102·6	103·4	103·2	102	,, ,, ,,
July 11,	100	102	102·6	102·6	102	,, ,, persistent.

Post-mortem. Many old-standing nodules.

Remarks. The "local" in the last test was typical, but the temperature was more disappointing with each subsequent test after the second. The local, except in the last test, was not good enough to condemn on, it gradually disappeared within 36 hours.

Roan Mare 2436.

Date	At inoculation.	12th hour	18th hour	24th hour	36th hour	Local Reaction
July 17, '09	100	102	102	102	101	Large, painful, persistent.
Oct. 9,	100·6	102·4	103	102·4	101·6	Small, painful, non-persistent.
Oct. 23,	100·4	100·4	101	101	101	,, ,, ,,
March 20, '10	101	102·2	103	103	101	Large, painful, dispersed 2nd day.
April 24,	100·6	103·8	103·8	102·8	101	Large, fairly painful, persistent.

Post-mortem. A few healed "scars"; no chronic, but a few recent sub-pleural nodules.

Remarks. Probably the presence of recent lesions was responsible for a more definite reaction in the two last tests. The local reaction in the first test was typical, but it was 9 months before it acknowledged the test again.

Chestnut Mare 2735.

Date.	At inoculation.	12th hour.	18th hour.	24th hour.	36th hour.	Local Reaction.
March 27, '09.	100	102·4	102·4	102	102	Large, painful, non-persistent.
May 8,	101·8	101·8	103	103	101	Small, non-painful, non-persistent
July 11,	100	100·4	99	100	100	*Nil.*
Oct. 9,	101	103	101	101	101	*Nil.*
Oct. 23,	99·2	100	100·4	100	100	*Nil.*
April 24, '10.	101·2	102	102	101·4	101·6	Large, painful, persistent.

Post-mortem. A few old-standing deeply seated nodules.

Remarks.—The temperature in this case is no guide; except for an attempt to rise at the second test with practically no local reaction, there was no indication of a thermal reaction. The case was decided solely on the local reaction of the last test. The peculiarity is that, after a suspicious local in the first, and an attempt at a thermal reaction at the second, absolutely no reaction is obtained in three subsequent inoculations, and after an interval of six months a typical "local" appears unsupported by a temperature reaction.

Roan Mare 2360.

Date.	At inoculation	12th hour	18th hour	24th hour	36th hour	Local Reaction.
July 11, '09.	100·2	100·4	101	101	101	Large, painful, non-persistent.
Oct. 9,	100·4	103·4	99	100	100	*Nil.*
,, 23,	99·4	99·6	100·2	100		*Nil.*
Apl. 24, '10.	100·8	102·6	101·6	101·2		Large, painful, persistent.

Post-mortem. Several healed scars, a few chronic nodules; patches of gangrene both lungs.

Remarks.—This case is exactly similar to the preceding (2735).

Bay Horse 2696.

Date	At inoculation	12th hour	18th hour	24th hour	36 hour	Local Reaction
May 8, '09.	101·2	101·4	103	102·8	102	Large, painful, persistent.
July 11,	100	99·4	99·8	99		*Nil.*
Oct. 16,	100·6	100	103	102·4	102	Slight, painful, non-persistent.
Apl. 24, '10.	100·4	103·4	104	103·4	103	Small, long, painful, persistent.

Post-mortem. A very heavy chronic infection in large "clumps"; no recent nodules.

Remarks.—Except in the first test where it was unsupported by a thermal reaction, the local failed in characteristics. In the last test, although painful and persistent, it lacked the characteristic shape of the mallein reaction; it was long and narrow, with lymphatic cordings. Had it not been for the rise of temperature one might have been again undecided.

Grey Horse 2657.

Date	At inoculation	12th hour	18th hour	24th hour	36th hour	Local Reaction
March 3, '09.	99·8	102·2	102	102	101·4	Small, painful, persisted to 2nd day.
July 11,	100·4	103	102·8	100	100	" " non-persistent.
" 17,	100·4	102·6	102·8	102	102	" " " "
Oct. 16,	101	101	102	102	102	Large, painful, persistent.
April 24, '10.	101	103	104	104	103·6	" " " "

Post-mortem. A very heavy chronic infection; a few recent nodules.

Remarks.—Except in the last test (possibly due to the recent lesions) the temperature was not definitely suggestive of a reaction that might have been ascribed to the "local," but there was no disputing the last test.

Bay Mare 527.

Date	At inoculation	12th hour	18th hour	24th hour	36th hour	Local Reaction
Nov. 27, '09.	101	100·2	100·2	100·2		*Nil.*
June 18, '10.	100	100·6	100·6	100·4		Large, painful, *appeared 3rd day*, lasting 2½ days.
" 29,	100	103	103·2	103	101·8	Diffuse, large, painful at 39th hour.

Post-mortem. A very recent case; only two "millet seed" nodules, one of them having an hæmorrhagic "areola."

Remarks.—From the lesions and their scarcity doubtless this case became infected between November and June. It is curious that no temperature reaction is recorded on June 18th, when a very fair one is recorded 11 days later. The animal had been passed as free, by the veterinary inspector before the "deferred swelling" of 2nd test appeared, which evinced itself after work.

Bay Mare 2094.

Date	At inoculation	12th hour	18th hour	24th hour	36th hour	Local Reaction
March '09.	101	102	102	101		There is no record of any local reaction.
Oct. 31,	101	102	102	101	101	Slight, *diffuse*, painful, dispersed after 36 hours.
June 11, '10.	101	102	102	101	101	Ditto.
" 29,	101	102·6	103	103	101	Slight, *diffuse*, very painful, persistent at 36th hour.

Post-mortem. A heavy infection of calcareous nodules.

Remarks.—At no test. except the last had the temperature responded, and the local in three of the four tests was by no means diagnostic. Even in the last it took more the character of an inflammatory diffuse thickening of the skin. It almost looks from the obvious age of the lesions as if they were beyond response. The similarity of the temperature readings for the first three testings is peculiar.

Roan Mare 2959.

Date	At inoculation	12th hour	18th hour	24th hour	36th hour	Local Reaction
March 28, '09	99·4	101·4	103·8	103·2	102	Slight, non-persistent.
April 19,	100	104·2	105	105	104·4	„ „
May 1,	100	102	101	100	100	„ „
Sept. 18,	100·4	101·6	102·6	101·8	101·8	„ painful, persistent.
Oct. 16,	101	99·8	101	100	100	„ non-persistent.
April 24, '10,	99·8	100	99	99	99	Fairly large, painful, persistent.

Post-mortem. Many deeply-seated chronic nodules and healed scars: only one recent nodule.

Remarks. It was the local reaction that decided this case. On the two first occasions when a temperature reaction was evinced it was unsupported by a "local." The last test, on which it was condemned, produced nothing but a fair-sized local which persisted.

Chestnut Horse 1855.

Date	At inoculation	12th hour	18th hour	24th hour	36th hour	Local Reaction
April 21, '09,	100·6	100·2	100·6	100		Large, painful, persistent.
Sept. 4,	100	102	102	101	101	Slight, painless, „
Sept. 18,	100	101	101	100		Larger „ „
Oct. 16,	100·8	100·2	100·4	101		Slight „ „
April 24, '10	100	100·6	100	100		Small, painful, persistent.

Post-mortem. Several large chronic nodules and healed scars; only one recent nodule.

Remarks. There was a definite temperature reaction in this case, and the locals, although persistent were small, and in all, except the first and last test, painless.

TABLE II.

Testings of Horses which on post-mortem proved to be *Non-Glandered*, showing "Vagaries" of Thermal and Local reactions.

Brown Mare 2442.

Date.	At inoculation.	12th Hour.	18th Hour.	24th Hour.	36th Hour.	Local Reaction,
March 3, '09.	101	103·8	103·8	102	101	Large painful up to 26th hour, receded by 48th hour.
Mar. 27,	No temperature recorded, was said to have had a suspicious local.					
July 11,	102	103	103	102·2	101	Large, *painless* local up to 36th hour, receded by
Aug. 15,	Slaughtered.					42nd hour.

Post-mortem. No glanders; lung tissue disorganised with gangrene, and suppuration "foci."

Remarks.—The elevation of temperature at the 12th and 18th hour, combined with a local reaction rising to the 26th hour, raised the suspicions on the first test, but the gradually receding local did not confirm them. In the third test the temperature again appeared suspicious, and the character of the local reaction agreed with the first except that it was quite painless and quickly dispersed. The animal was not condemned on the last test, as the local, although suspicious, was not as characteristic as the first.

Black Mare 2835.

Date.	At inoculation.	12th Hour.	18th Hour.	24th Hour.	
March 27, '09.	99	99	99	99·2	Small, painful up to 24th hour, then dispersed.
July 18,	100	100·2	100	100	„ „ „ „
„ 24,	100·4	101·2	101	101	Small, painful up to 36th hour, then dispersed.
Sept. 25,	103	103	103·4	99·8	*Nil.*
Oct. 16,	101	101	100	99·6	Small, painful up to 24th hour, then dispersed.

Post-mortem. No glanders; gangrene of the left lung; encapsuled portions of necrotic tissue.

Remarks.—The first two tests gave small, circular painful locals which were unsupported by a temperature reaction, and although they dispersed after 24 hours they were suspicious. The third test a week after the preceding was with the object of ascertaining if an injection on the opposide side of the neck within a week would produce a double swelling (as in the case of B.M. 2681, Table 1.); it, however, only produced a small painful swelling at the seat of inoculation, which persisted from Sunday morning till Monday afternoon and then dispersed, but there was no corresponding swelling from the previous inoculation, and it was unsupported by a rise of temperature. The fourth test is no indication as the temperature was abnormal at inoculation, but curiously this inoculation was the only one which produced no suspicions at the seat of inoculation. Unlike the preceding case, there was no temperature disturbance in this animal.

Black Horse 2578.

Date.	At inoculation	12th Hour.	18th Hour.	24th Hour.	Local Reaction.
July 5, '09.	100·2	100·2	101	101	*Nil.*
Oct. 9,	100·4	102·6	100	100	Fair sized, painless up to 24th hour, dispersed by 36th hour
Oct. 23,	101	99·2	100·4	100·2	" " " " " "

Post-mortem. No glanders, but three patches of encapsuled necrotic tissue in left lung.

Remarks.—The test in July was applied as the animal was said to have shown a suspicious local the previous March, but the result was negative. As he was a bad "doer" he was tested three months later, producing a fair sized *painless* local, which quickly dispersed after the first 24 hours. The same symptoms being produced at the test 14 days later with no rise of temperature.

Bay Mare 2654.

Date.	At inoculation.	12th hour.	18th hour.	24th hour.	Local Reaction.
April 13, '09.	100	100	100	100	*Nil.*
Sept. 11,	99·6	99	100		Long, corded, painful up to 36th hour, then dispersed.
Oct. 16,	100·4	99·6	100·4	100	Small, painful up to 24th hour, then dispersed.
Jan. 27, '10.	100	101	100	100	*Nil.*

Sold. No post-mortem held.

Remarks.—This animal was tested in September as she was a bad "doer," and it produced an elongated, painful, corded swelling persisting till the 36th hour, when it disappeared. As there was nothing suspicious recorded in January she was sold.

Bay Mare 242.

Date.	At inoculation.	12th hr.	18th hr.	24th hr.	Local Reaction.
July 11, '09.	101·8	102	101·4	101·8	Fairly large, painful up to 24th hour, then dispersed.
Sept. 21,	No rise in temperature.				*Nil.*

Post-mortem. Old standing patches of pleurisy and solidified lung tissue.

Remarks.—This was a young mare that had made a bad recovery from pneumonia, and her wind was affected. The local was pronounced and painful for 24 hours.

Roan Mare 2795.

Date.	At inoculation.	12th hour.	18th hour.	24th hour.	36th hour.	Local Reaction.
March 27, '09.	99·6	102·4	102·6	102·6	101	Large, *painless* up to 24th, and dispersed by 36th
May 11,	100·4	101·8	101·8	101·1		" " " " " hour.
July 11,	102	101·4	100·4	100·4		*Nil.*
Oct. 9,	101	101	101			*Nil.*
Oct. 23,	99·2	99·2	100			*Nil.*

Post-mortem. No glanders. Lower part of right lung old-standing pneumonia. Left lung patches necrotic lung tissue.

Remarks.—The "locals" produced in the first two tests were identical, viz., large, circular, *painless*, they persisted till the 24th hour and dispersed by the 36th hour. The temperature made a feeble attempt at a rise in the first test, but subsequent inoculations were negative.

Bay Mare 2900.

Date.	At inoculation.	12th hr.	18th hr.	24th hr.	36th hr.	Local Reaction.
March 13, '09.	100·6	102·4	102	101	101	Slight, *painful*, disappeared after 36th hour.
Oct. 30,	102	101·8	103·2	100·8	100	„ „ „ „ „
Nov. 23,	101	100	100·4	100	100	*Nil.*

Post-mortem. No glanders. Spleen and intestinal glands much enlarged and caseous, simulating tuberculosis, but no bacilli found on examination. Kidneys pale and friable; lungs and other organs healthy.

Remarks.—A peculiar constitutional depression was noticed on the occasion of each inoculation, and the animal appeared "sick" for several days, although there was no elevation of temperature accompanying it. The mare, which up to the first inoculation had been in perfect health, seemed to, in the words of the horsekeeper, go "all to pieces." She gradually wasted away and was slaughtered soon after the last test, whether this was due to any action of the mallein on the lesions present I am not prepared to say.

TABLE "A."

The Relation of the Local and Thermal Reactions to the Lesions of Glanders found on Post-mortem.

Under observation.	Tested at intervals of	Resumé of Local and Thermal Reactions.	Post-mortem.
Bay Mare 2632	2 months	Good persistent local, no temperature.	Several chronic pulmonary lesions, many breaking down; several recent ones around those breaking down.
13 months	2 „	No reaction, local or thermal.	
	3 „	Small, *painful*, peristent local, no temperature.	
Chest. horse 1855	5 months	Small *painless* persistent local, no temperature.	Several large chronic pulmonary nodules, many healed scars, one recent nodule,
12 months	2 weeks		
	1 month		
	6 months	Large, *painful*, persistent local, no temperature.	
Roan Mare 2959	1 month	Small, *painless*, non-persistent local, inconclusive temperatures	Many old-standing, deep-seated nodules; many healed scars, one recent nodule.
12 months	2 weeks		
	18 „	Small local, good temperture.	
	1 month	Similar to first.	
	6 months	Fair sized, *painful*, persistent local, no temperature.	
G. Horse 2657	3 weeks	Small, *sore*, non-persistent local; no temperature.	A very heavy, chronic, pulmonary infection, with a few recent nodules.
11 months.	14 „	Rather larger, *sore*, non-persistent local, no temperature.	
	3 months	Large, *painful*, persistent local, no temperature.	
	6 „	Similar local, good temperature.	
B. Horse 2696	2 months	No reaction, local or thermal.	A very heavy, chronic infection, characterised principally by large "clumps"; no recent nodules.
	3 „	Slight non-persistent local, indefinite temperature.	
11 months.			
	6 „	Local, *painful* but small, good temperature.	
R. Mare 2436	3 months	Small, *painful*, non-persistent local, no temperature.	A few healed scars; no chronic nodules, a few recent, subpleural nodules.
	2 weeks		
9 months.	5 months	Large, *painful*, non-persistent local, indefinite temperature.	
	1 month	Large, *painful*, persistent local, indefinite temperature.	
R. Mare 2360	3 months	No reaction, local or thermal.	A few chronic nodules; several healed scars; patches of gangrene in lungs.
	2 weeks	„ „ „	
9 months.	6 months	Large, *painful*, persistent, local, no temperature.	

Under observation.	Tested at intervals of	Resumé of Local and Thermal Reactions.	Post-mortem.
Ch. Mare 2735 13 months.	5½ weeks	Small, non-persistent local, indefinite temperature.	A few old standing, deep seated nodules.
	2 months	No reaction, local or thermal.	
	3 „	„ „	
	2 weeks	„ „	
	6 months	Large, *painful*, persistent local, no temperature.	
B. Mare 3237 4 months.	2 months	Large, *painful*, non-persistent locals; fluctuating temperatures.	Many old standing nodules.
	2 „		
	1 week	Large, *painful*, persistent local, no temperature.	
B. Horse 3255 4 months.	2 months	Slight, non-persistent local, no temperature.	A mixed infection of chronic and recent nodules.
	2 months	Large, *painful*, persistent local with indefinite temperature.	
B. Horse 2517 4 months.	2 months	Good local, no temperature.	Many chronic nodules; no recent ones.
	2 „	Good local, fair temperature.	
B. Mare 2584 4 months.	2 months	Good local, no temperature.	Many chronic nodules; no recent ones.
	2 „	Good local, fair temperature.	
B. Mare 31 3 months.	3 months	Typical. Had given supicious local, but indefinite temp. 3 months ago.	Many recent nodules; no chronic ones.
B. Horse 2514 3 months.	1 month	Very slight local, suspicious temperature.	Many chronic nodules; no recent ones.
	2 months	Typical local, fair temperature.	
Blk. Horse 3116 3 months	1 month	Typical local, almost definite temperature.	Many chronic nodules; no recent ones.
	17 days	„ „	
B. Mare 2681 2 months	2 months	Typical local, no temperature.	Many chronic nodules; no recent ones.
	1 week	*Painful*, large, persistent local, also another at seat of last week's inoculation, other side of neck: no temperature.	
Br. Mare 3045 2 months	2 months	Good, persistent local and temperature.	Many chronic lesions; no recent ones.
B. Horse 2751 2 months	2 months	Good persistent local with no temperature, following after 2 months a good local, and temperature characterised by a sudden rise at 12th hour, followed by gradual fall.	A few chronic nodules; no recent ones.
B. Mare 2094 8 months	7 months	Slight, diffuse, *painful* local,	A heavy infection of calcareous nodules throughout both lungs.
	8 „	dispersing after 36 hours; no temperature.	
	18 days	Local similar to preceding, persistent at 36th hour; fair temperature reaction.	
B. Mare 527 7 months	6½ months	*Deferred*, large, painful local appeared 3rd day after work, and lasted 2½ days; fair temp.	A very recent case; only 3 "millet seed" nodules found, 2 of them having an hæmorrhagic areola.
	11 days	Local similar to above (B.M. 2094) fair temperature.	

TABLE "B."

The Relation of Local and Thermal disturbances to Lesions other than Glanders found on Post-mortem

Under observation.	Tested at intervals of	Resumé of Local and Thermal Reactions.	Post-mortem.
Br. Mare 2442 4 months	3 weeks	Suspicious local, no thermal.	No glanders: lung tissues disorganised with gangrene and suppurative foci.
	14 „	Large, *painless* local up to 36th hour, receding by 42nd hour.	
Blk. Mare 2835 7 months	4 months	Small, *painful* local, dispersing after 24th hour, no temperature.	No glanders: gangrene of left lung, encapsuled portions of necrotic lung tissue.
	1 week	Similar, dispersal after 36th hour	
	2 months	Negative.	
	3 weeks	Similar to first.	
Blk. Horse 2578 7 months	1 week	Negative.	No glanders: three patches of encapsuled necrotic tissue in right lung.
	3 months	Fair, *painless* local up to 24th hour, dispersing quickly, no temperature.	
	2 weeks	Similar.	
B. Mare	5 months	A long corded, *painful* local, dispersing after 36th hour, no temperature.	No post-mortem, as mare was sold.
2654	1 month	A small painful local, dispersing after 24th hour, no temperature.	
9 months	3 months	Negative.	
B. Mare 242 2 months	2 months	Negative; following a fairly large *painful* local, dispersing after 24 thhour, with no temperature, 2 months previously.	No glanders: old-standing patches of pleurisy and solidified lung tissue.
R. Mare 2795 7 months	2 months	All negative, after showing, 2 months previous to the first test, a large *painless* swelling up to the 24th hour, dispersing by the 36th, with a temperature rise to 102·6.	No glanders. Lower part of right lung solidified from old-standing pneumonia; left lung, patches of necrotic tissue.
	2 „		
	3 „		
	2 weeks		
B. Mare 2900 8 months.	6½ months	Small, *painful* local, dispersed after 36th hour, very slight thermal disturbance, but great constitutional depression for several days.	No glanders: the spleen of intestinal glands much enlarged and caseous, simulating tuberculosis, but no bacilli found on examination; kidneys pale and friable; lungs and other organs healthy.
	3 weeks	Negative, except great constitutional depression for about week.	

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.		Anthrax.		Foot-and-Mouth Disease.		Glanders.		Parasitic Mange.	Sheep Scab.	Swine Fever.	
		Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Animals.			Outbreaks	Slaughtered. *
IRELAND. Week ended Dec. 23		...	...	...	...	...	...	2	9	3	64
Corresponding Week in	1910 ...	..	...	...	...	...	...	1	21	5	17
	1909 ...	...	...	...	...	...	...	1	21	...	2
	1908 ...	...	...	...	...	...	...	...	14	3	3
Total for 51 weeks, 1911 ...		9	16	...	...	2	3	58	333	174	2563
Corresponding period in	1910 ...	7	13	...	...	1	2	65	456	95	2152
	1909 ...	8	8	...	...	...	...	75	417	88	1570
	1908 ...	7	10	...	...	...	...	39	362	159	3591

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Dec. 23, 1911

ors.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

VETERINARY MEDICAL ASSOCIATION OF IRELAND.

A general meeting of the Association was held at Wynn's Hotel, Abbey Street, Dublin, on Wednesday night, November 22nd, when the President, Prof. A. E. Mettam, occupied the Chair, and the following gentlemen were present: Jas. McKenny, Chas. Allen, P. J. Howard, J. B. Dunlop, W. H. Wilkinson, W. Cargill Patrick, Prof. J. F. Craig, J. H. Norris, and A. Watson, Hon. Sec.

On the motion of Mr. Howard, seconded by Mr. McKenny, the minutes of the last meeting were confirmed.

Letters of apology for inability to attend the meeting were received from Col. Moore, Messrs. Thompson (Lurgan), Dobbyn, Reavy, O'Brien, Jordan, Chambers, Nolan, Vahey and F. A. Heney.

The SECRETARY read the report of the Council, and Mr. Allen proposed that it be received and adopted. (Agreed.)

REPORT OF COUNCIL.

A meeting of the Council was held on November 3rd. The President occupied the Chair, and there were also present: Prof. Craig, M.A., J. B. Dunlop, Prof. O'Connor, P. D. Reavy, Fred A. Heney, B. P. J. Mahony, Jas. McKenny, Matthew Hedley, and A. Watson, Hon. Secretary.

The Minutes of last Council meeting were read and signed.

Letters of apology for non-attendance were received from W. Cargill Patrick, P. J. Howard, J. H. Norris, Lieut.-Col. Steel, J. Holland, W. H. Wilkinson and W. Chambers.

The circular letter (and resolution) from the Secretary of Committee, *re* affiliation with N.V.A., was read, and it was decided to refer the letter and resolution to a small committee for report.

A letter was read from the Royal College of Veterinary Surgeons relative to certain advertisements appearing in the *Sligo Times* and informing the Council that no action would be taken in the matter, for the reason that the advertisements had been inserted by a person who had no authority to do so from the gentleman whose name appeared in the advertisements.

The Royal Sanitary Institute wrote informing the Council that the Annual Congress would be held at York in August 1912, and invited the Council to send a Delegate. Mr. Reavy proposed and Mr. McKenny seconded that Mr. Watson be requested to attend as delegate from the Association, which was carried.

A letter was read from the Royal Veterinary College of Ireland stating that two students had tied for the first place at the Final Examinations held this year, and asking the Council to bestow two medals instead of the customary one. It was resolved that the request be granted, but was not to form a precedent.

A letter was read from the Amalgamated Society of Farriers asking the co-operation of the Association in a proposed revival of shoeing competitions. The Council regretted their inability to take any action in the matter

Mr. Watson stated that circumstances would compel him to refrain from seeking re-election to the position of Hon. Secretary next January.

The General Meeting was arranged to be held on 22nd November, at Wynn's Hotel, Lower Abbey Street.

NATIONAL VETERINARY ASSOCIATION.

The President said there was a question with reference to the National Veterinary Association. It was recommended by the Council that a small Sub-Committee be appointed from the Association or the Council to report to the Association on the matter referred to in the Council's report.

It was decided to appoint as a Sub-Committee the President, Professor Craig, Mr. McKenny, Mr. Howard, Mr. Patrick, and the Hon. Secretary, who were asked to present their report to the January meeting.

CONGRESS OF THE ROYAL SANITARY INSTITUTE.

At the recent Congress held at Belfast I had the honor of attending as the Delegate of this Association.

The Congress was held under most favourable circumstances. The warm sunshine and cloudless skies left little to be desired, except perhaps an occasional draught of one or other of the sparkling beverages for which the northern capital is famed.

The various local committees left nothing undone to minister to the comfort of the visitors—various entertoinments in the shape of receptions, luncheons, and excursions, were liberally provided, and I need hardly say your delegate took advantage of many of them.

Now, coming to the Congress itself I must say that it was large and representative, and included a goodly number of the fair sex, whose winning smiles and picturesque costumes added much to the appearance of the whole assembly.

All the lectures were well attended, but naturally your delegate gave most attention to that presidsd over by the City Veterinarian of Belfast. I don't wish to flatter Mr. Jordan, because I know he is aware of his own importance!! Still, I don't think I would be doing him justice did I not state that in his address of welcome he maintained in a worthy manner the traditions of the Veterinary Profession.

The time of this section was taken up almost altogether by a discussion—and a very animated discussion too—on the subject of "Meat Branding, and the Uniformity of Meat Inspection" presented by Mr. Barnes, M.R.C.V.S. Chief Veterinary Inspector, Islington. Considerable interest was shewn in Dr. Henry O'Neill's most elaborate description of the new abattoir for Belfast.

Various designs of humane killers and instruments for branding meat were exhibited, but none of them presented any feature of novelty except, perhaps, Mr. Jordan's 'Electric Brander.'

In conclusion, I should just like to state that the whole trend of the various speeches pointed to the Veterinary Surgeon as the man who should in future take a full share in administering the Public Health of this kingdom.

Lurgan. J. A. THOMPSON.

The President said that a report from the delegate to the Royal Institute of Public Health had not yet come to hand.

TUBERCULOSIS.

A letter and resolutions from the Association of Veterinary Officers of Health re Tuberculosis was read by the President, who said it required a good deal of consideration. There was one thing to be considered, and that was that a Milk Bill was to be introduced into Parliament by Mr. Burns, and they would like to see how far it went. He believed that the Board of Agriculture had admitted the principle of compensation in tuberculosis, but if they were going to extend compensation the same as it was in some other infectious diseases it would be a "large order." They would want more money than for insurance.

The HON. SEC. said it would tend to strengthen the hands of the legislature if they adopted the resolutions. It was a tall order, but on the principle of "throw lots of mud and some of it is sure to stick," it might be productive of good. He did not see that there could be any objection to the Association approving of the resolutions contained in the letter. Every member of the Association would agree with the spirit, if not with the letter, of the resolutions.

The PRESIDENT did not agree with compelling owners of property to build houses for healthy animals, the occupants to keep them in cleanly condition (Laughter).

The HON. SEC. said that the owners of the cows were the occupants in the eyes of the tax-payer.

Mr. WILKINSON remarked that there would be a good many applications for State aid.

The HON. SEC. said that there was State aid already. They could erect buildings under a grant from the Board of Works.

Mr. NORRIS said that it would cost but little money, and would give veterinary surgeons work, and do a great deal for the country. The only thing they would have to do under the resolutions would be to re-organise the Public Health Acts as at present. When the last Bill of John Burns before Parliament was withdrawn, they had practically an undertaking that the Board of Agriculture were to give compensation for udder and clinical cases. He thought the resolutions were pretty near being materialised, and he thought they should support them.

Mr. MCKENNY proposed that the resolutions be adopted.

Mr. WILKINSON seconded, and the motion was carried.

Resignation. Mr. F. W. Emery, Belfast, wrote apologising for absence and tendering his resignation from the Association.

It was decided to ask Mr. Emery to reconsider his decision.

MILK SUPPLY.

A letter was read from Mr. James Doyle, Monkstown, in which he drew attention to the fact that a Committee had been formed to consider the scarcity of milk in Ireland, the dangers of contamination, infection, etc. He considered that it was an opportunity to assert the rights of the profession in the matter of inspectorships under the Dairies, Cowsheds, and Milkshops Order, etc., and hoped that the evidence of those veterinary surgeons in a position to give it would be availed of.

The PRESIDENT said it was the intention of the Committee to take all evidence possible from members of the profession engaged in this work. He did not think he was giving any information which he should not give when he said that a large number engaged in Veterinary Public Health had already been asked to submit evidence. Everyone engaged in inspection duties would be asked to give evidence if they wished to do so.

Mr. DOYLE said it might be useful to try and bring in veterinary surgeons to do work of inspection where policemen were now doing it.

The PRESIDENT said that he thought they should wait and see what recommendations the Commission made.

Mr. NORRIS asked if the Association could not get evidence to show that laymen could not do the work of inspection.

The PRESIDENT said that he was in a position to give that information. Officials from the Local Government Board, from the Board of Works, and the Department of Agriculture were supplying them with what they wanted to know as to what powers were in existence. There were to be Medical Officers of Health and Veterinary Medical Officers of Health, to give evidence, and advertisements were to be published asking all and sundry to give evidence if they chose. They were not limiting themselves, and it was competent for any member of the Commission to suggest that certain persons should be asked to give evidence.

Mr. NORRIS said that they should send a witness from that Association.

Mr. DOYLE remarked that it was a favourable opportunity to push home the position of veterinary surgeons with regard to inspection. He had seen disgraceful cases where a veterinary surgeon had not been inspecting.

The PRESIDENT said that the idea of calling Mr. Mason was to obtain a general idea of the state of dairies throughout the country He had as wide experience in Ireland as anyone. They would get from him a comprehensive view as to cows and the milk supply generally.

The HON. SEC. said he remembered Mr. Howard writing a paper for Cork, and he thought that he would represent faithfully the views of the Association. He was sure the Commission would be delighted to have his opinions.

Mr. MCKENNY said that Mr. Mason was capable of giving the evidence, but judging from what he said at those meetings with reference to the dispensaries, he would not approve of him as representing that Association.

Mr. NORRIS proposed that Mr. Howard be appointed their representative to give evidence before the Commission.

Mr. WILKINSON seconded the motion, which was passed.

New Member. Mr. J. S. M'CANN, M.R.C.V.S., of Tullamore, was balloted and declared a duly elected member of the Association.

ROARING AND WHISTLING.

[Adjourned discussion on Prof. Craig's paper.]

E.

Mr. MCKENNY: At our last meeting owing to the very able manner in which the subject of "whistling and roaring" was dealt with, aud the condensed form of knowledge on the subject set forth in Professor Craig's paper, I suggested that the discussion on it be continued at this meeting, and I hope that we may now be able to so illuminate the hitherto dark clouds of mystery connected with the subject that we may be enabled to disentangle the golden cords of unexplained facts connected therewith.

Some of the facts that I more particularly allude to are the normal and abnormal sounds produced in respiration, for these vary not only in different animals but in the same animal under altered circumstances, and the sounds which under some conditions are normal, under other conditions would be abnormal—for instance, the normal sounds of breathing when an animal is galloping would be abnormal if the animal was at rest. Again, the respiratory sounds emitted by a fat horse out of work when he is galloped would be abnormal if he were in good condition, fit to race or hunt. Also the natural temperament of a horse alters the sounds. A horse with an exciteable temperament when galloped may make a shriller noise in breathing than a horse with a lymphatic temper, and if a horse is ridden with its head unnaturally bent so that the larnyx is pressed on, it will make a noise that otherwise it wonld not do. Likewise a perfectly sound-winded horse after a long journey on a dusty road, if then galloped, may make a shrill noise which ceases if his mouth and nostrils are washed out with a wet sponge, or if he is allowed to drink a small quantity of water. The respiratory sounds made by some horses having large nostrils, when slowly galloped are frequently much louder than those having small nostrils, but when the former galloped fast so that the nostrils will be fully extended, the loud flapping noise ceases, and they generally are very sound-winded horses.

It is obvious that the respiratory sounds vary very much under different circumstances, those which I have set forth are normal under the conditions described, and therefore should not be considered or unsound. Added to the foregoing Professor Craig has enumerated in his paper other sounds, which although abnormal may be but temporary and are not those characteristics of true 'whistling' and 'roaring' as laid down by the Professor from an anatomical and physiological point of view, and

upheld by all who joined in the discussion—with the exception of one gentleman who boldly informed us that although he knew that the general opinion is that the shrill sound of 'whistling' is in the inspiration, he holds that in some cases it occurs exclusively in the expiration. The variations of the respiratory sounds narrated, are as difficult to describe verbally as it would be to illustrate the sounds of music without the aid of a musical instrument, and those who are musically deaf cannot discriminate between the normal and abnormal respiratory sounds than they could the different sounds of music—A flat would be to them the same as A sharp, or a bass as a tenor voice, Although under existing circumstances it would appear impossible that even a large majority of Veterinarians could agree as to the exact sounds which denote true 'whistling' and 'roaring,' yet I believe if phonographic records were secured of sound and unsound winded horses, especially those of 'whistlers' and 'roarers' authenticated by a committee appointed of Practitioners, and these could be obtained by Veterinary Surgeons and Students at a nominal charge, each member of the Profession could, to a considerable extent be initiated by illustration of the sounds that the majority of the profession held to be those indicative of true 'whistling' and 'roaring.'

Professor Craig defines 'roaring' and 'whistling' to be a chronic condition in which an abnormal laryngeal sound is produced during inspiration. That definition indicates that 'roaring' and 'whistling' are only symptoms of a disease. If the sound is produced during expiration only or in expiration to the same extent as inspiration, he holds that the condition is not 'roaring' or 'whistling.' The difference in 'roaring' and 'whistling' lies in the pitch of the sounds produced. In 'roaring' it is low, in 'whistling' high.

I agree with this definition, and hold that the key to it lies in the fact of the abnormal sounds of 'whistling' and 'roaring' being produced in the inspiration, otherwise the loud sound known as trumpeting might by some be mistaken for 'roaring' and every shrill noise be in the opinion of some that of 'whistling.,

Indeed at the present time the fact is each veterinarian is at liberty to form his own opinion as to the sounds produced by a 'whistler' or a 'roarer,' and therefore it is not to be woudered at that there are so many differences of opinion on the subject, and this deplorable condition will continue until standard sounds of 'whistling' and 'roaring' are agreed on.

As to the cause of the sounds of 'whistling' and 'roaring,' Professor Craig's opinion as given in his paper may be correct, but I ask him to explain how is it that the removal of the Arytenoid Cartilages or the free portion of same has frequently removed the abnormal sounds.

With the pathology of 'whistling' and 'roaring' so far as the laryngeal anatomical changes which take place are concerned, Professor Craig has dealt excellently, but we need much more knowledge than that pertaining to the local lesions to explain how some 'whistlers' exhibit symptoms which indicate that extensive alterations of their larynx have taken place, yet it does not prevent them from performing feats requiring much stamina: and again, other horses that 'whistle' but slightly become distressed on comparatively little exercise. Therefore, as the laryngeal changes that take place in a 'whistler' do not always necessarily incapacitate a horse from performing feats requiring great powers of endurance, it is evident that sometimes other structures also are involved.

In my opinion, in considering the pathology of 'whistling' it is not wise to confine ourselves to the mere local changes of structure that take place and produce the abnormal sounds. I have no doubt that the paralysis of the recurrent laryngeal nerve can be, and is, caused by ailments affecting the pneumogastric nerve, and therefore the affections, chronic and acute of the lungs and stomach should be considered. My views on this matter were more fully expressed at our last meeting.

Professor Craig has drawn our attention to the fact that long fine necks are often seen in 'roarers.' Since his paper appeared in *The Veterinary Record* I was consulted in a matter relative to the fact. A gentleman sold a horse which had a long, fine neck, and the purchaser had it examined by a Veterinary Surgeon who condemned the horse as unsound on account of its neck, stating that although the horse might then be sound in wind it would become a 'whistler' or a 'roarer.' The purchaser then galloped and otherwise examined the horse, and bought it, and stated he would never again have a horse examined as to soundness by a Veterinary Surgeon, as the opinion given showed him it was only throwing money away. I was asked by the seller if the horse had not been bought, could he have made the Veterinary Surgeon pay for his loss. Of course I said no, but I need not tell you what I thought of the opinion.

As to 'whistling' being hereditary, I certainly am, from my experience, of the opinion it is transmitted from parent to offspring. This may or may not be, technically speaking, hereditary, but the fact remains that the offsprings of certain sires and dams are nearly always 'whistlers' and 'roarers.' At the same time, in my opinion, when we are called on to examine a horse as to its soundness, whose sire or dam we know was a 'whistler' or 'roarer,' we should not condemn it as being unsound because we are strongly of opinion it will become a 'whistler' or 'roarer.'

It may appear to some of you that my remarks on the opinions given as to the long fine necks, and horses bred from whistlers (hereditary) are uncalled for in this assembly of professional men, but grant for a moment that some veterinarians when called on to examine horses relative to soundness, condemn as unsound such horses, and state that although they then are sound in wind, they will become whistlers or roarers, and other veterinarians give their opinions in accordance with the facts that they are sound. Which of these veterinarians are acting strictly in accordance with the knowledge we possess on the subject? The former may say we give our opinion on the fact that long, thin necked horses generally become whistlers; and whistling is hereditary, therefore we condemn as unsound those horses, as at the time of examination they have defects which probably will render them unsound. And this line of reasoning also applies to other defects which are generally admitted as constituting unsoundness. On the other hand it may be held that if at the time of examination a horse is sound, that fact should be stated, and as defective formation and breeding are not defect of tissue these are not matters calling for our opinion when asked to state whether the horse at the time of examination is sound or otherwise.

Proceeding, Mr. McKenny said that Prof. Craig had asked him to state cases of whistling being transmitted from parents to their offspring. He could give many cases that he knew of sires and dams that were whistlers and their affspring invariably were also whistlers, but in the case of some stallions the fact was more remarkable, as nearly all their progeny, certainly the majority of them, became whistlers although their dams were free from it, and might have bred, to other sires, horses that remained sound.

At present he knew a very good looking sire and had seen a large number of his offspring, and they were very well-made, stout horses showing lots of breeding, steeplechasers, and high-class hunters, with well-shaped necks, and the large majority of them were whistlers One of his clients bred three horses from this stallion and the three were whistlers—a two year old, a three year old, and a four year old. He had previously bred from the

same dam three other horses got by different sfallions, and they remained sound in wind.

Mr. McKenny stated he felt sure that nearly everyone that practically knew anything about breeding horses would give the same opinion as he had given as to the transmissibility of whistling, whether they called it heredity or predisposition. Certainly the majority of the offspring of some stallions became whistlers whether their necks were long and thin, or short and thick.

Mr. ALLEN said that the man who wrote a paper and read it before his Association was entitled to their best thanks whether the paper was good, bad, or indifferent. He had carefully read Prof. Craig's paper, and in theory and practice it was the very best written on the subject. He had read everything on the subject, and had studied the matter very closely himself, so could appreciate it thoroughly. On his part he begged to return Professor Craig his sincere thanks. Professor Craig had asked a few questions, but he had explained matters so fully that there was nothing left to answer.

One question is, what is the cause of the sound known as roaring? Well, anything that interferes with the action of the muscles on the larynx. The principal cause is inflammation of the mucous membrane lining the larynx. When it becomes thickened and indurated the muscles cannot act, so then become wasted, and seldom recover their tone and strength. Over exertion causing strain of the muscles and ligament, and pressure from some cause or other. The theory that roaring is due to paralysis of the left recurrent nerve causing atrophy of the muscles of the left side is, I consider, without any proof, as lots of horses that have been roarers have perfectly recouered, which they would not if it were due to paralysis. It is stated that the disease is hereditary. I do not believe it is. No horse was ever foaled a roarer. But the diathesis or predisposition to the disease is due to shape or malformation, which is hereditary. A true-made horse may become a roarer from accident, but that is not hereditary. I have known sound stallions get roarers; and stallions that were roarers and grunters get very sound horses. I agree with Prof. Craig in all he has written in his paper, and again beg to thank him.

Mr McKENNY said some time ago, in a conversation with Mr. Allen, he was impressed by his remarks relative to some facts which he thought might be a cause of the near recurrent laryngeal nerve being paralysed more frequently than the off, and he hoped Mr. Allen would excuse him for briefly submitting to the meeting the simple, yet perhaps the most important fact of the frequency in which the head is twisted to the near side, and sometimes necessarily with a severe jerk, as for instance, we catch a foal on the near side, cavezon, and lead on the near side, and unfortunately when training, most grooms ring a great deal more to the near than to the off side, and in the case of a highly nervous or unruly animal, have occasion to pull the head with much force to the near side. We saddle, mount, and harness from the near side, and as a result of this perpetual handling from the near side, the structures of the near side of the neck are interfered with more than they are on the off side, and consequently may to some extent, be a cause of the left recurrent nerve becoming paralysed more frequently, and prior to, the right becoming affected.

Mr. Allen also mentioned to me that he noticed that in cases of navicular disease occurring in one fore foot, he invariably found it was the off fore was affected, and when it occurred in the near, the off fore was also affected. The handling referred to brought the off fore foot more forcibly to the ground than the near one, and this might account for navicular disease occurring more frequently in the off fore foot than in the near fore foot.

Mr. ALLEN—In nineteen cases out of twenty.

Mr. HOWARD said he thought it would be a very happy solution to the question, if, as Mr. McKenny said, they could arrive at some definite conclusion as to what would be recognised by the profession universally as 'roaring' and 'whistling' and the degrees of it, but somehow he was afraid that for ever it would be the opinion of individuals. In the remarks he made at the last meeting he suggested that it would be really the happiest thing for them as regarded the question, particularly when they came to bring it into actual practice with regard to the examination of animals, if the public could be educated on the point. He was afraid that opinions governed all Veterinary Surgeons when they examined horses. Their opinions were based considerably on the public expectation or definition existing in the minds of the public as to what 'roaring' and 'whistling was. He repeated the statement that he thought a good many horses were cast by Veterinary Surgeons because they were making some little deviations from what appeared to be normal, on the knowledge solely that the horse would come before someone else who would cast him, not because he had an unsoundness but in accordance with public custom.

He thought that Professor Craig had almost fully answered his own questions. He still thought they must describe 'roaring' or 'whistling' as any abnormal musical sound made in inspiration or expiration. He had often met horses making a noise in both. They might ride a horse which wasabsolutely sound, but if they got the head in a particular position the animal would appear very unsound. (hear, hear.) He had a horse at the present time which he hunted with the previous day, and if they took his head he would throw it up and become a 'gazer,' and would roar at once. If the head was dropped he would race away as sound as they liked. It was unnecessary to go into what were the symptoms. The younger men would always need to be put on their guard as to the kind of animal that he was speaking of—an animal that was sound and got his head into a particular position and became unsound. They all knew that some of the clever dealers would buy a horse and put a fellow on him who said he was making a noise, and they would get £20 or £38 off in consequence of the noise. The cause of the sound would be, as everyone had said, anything which interfered with the lumen of the larynx, or it being unable to allow the necessary amount of air to pass in. They would have to leave the pathology of the question with people like Professor Craig, who could spend more time than the ordinary practitioner could devote to it. With regard to heredity, no one would dispute that there was evidence to show that at least the pre-disposition was hereditary, and as to people not knowing whether an animal was ever born with the disease, it was going a little bit too far, because no one had ever had an opportunity of examining a foal, or even a yearling. He had seen foals which had become whistlers when they grew up. He had known sires bad roarers, and they bred 90 per cent that were sound. He had known a few sires perfectly sound that had bred 50 per cent unsound ones. If they went into the history of the animal, perhaps their predecessors were a little bit musical. Professor Craig has described the pre-disposing causes. Anything which was likely to have an effect either immediately or remotely on the larynx—colds, influenza, strangles, etc., which were likely to upset the larynx; all these might be looked upon as pre-disposing causes. He was convinced that none of these causes were sufficient, and were not responsible for a large percentage, and where they had an animal inclined to be sound and coming of a sound family, 90 per cent would recover, even from an attack of strangles.

With regard to the diseases from which 'roaring' and 'whistling' had to be differentiated, he had come across cases where mistakes might have been made. He went to examine a four-year-old colt last year, and put him in the lunge, and when he went round once or twice he thought the animal was a high blower.

His experience was that when a high blower got the nonsense taken out of him, the noise stopped. When he stopped this horse he was distressed, and the noise continued. He seemed to have complete paralysis of the right nostril. He thought possibly some nerve injury had occurred in hauling him along, as he was a bit wild but he saw him again in a month, and he was still bad. For 10 or 15 minutes after the exertion his lip was noticed to be pulled to one side. That was a case in which there might have been a serious mistake made. He might have been described as a roarer or a whistler, though from a cause independent of the larynx. He was not a roarer in the ordinary acceptance of the term.

The PRESIDENT: Did you trace him for any longer period after that.

Mr. HOWARD said he watched him, and even tried to buy him. He found that Mr. Parkinson at the Curragh had met a similar case, and he had cut the flap of the nostril, and the animal did all right. A lot of horses got it through being hauled about.

He took the opportunity within the last week of examining two horses operated on. One was absolutely sound except when his head was pulled. He had been called "Gramophone," and that would give them an idea how musical he was. The operation in his case had been a success, and there was no such thing as distress.

Mr. PATRICK—Is he sound?

Mr. HOWARD—No Veterinary could pass him as sonnd.

Mr. MCKENNY said he would like to bet £50 that if a horse was distressed and Professor Hobday or anyone else operated on him he would be as bad afterwards.

Mr. HOWARD said that this horse was well-known in the show ring. He used to be considerably distressed—it was painful. He had seen that horse finish the previous day carrying 14 stone and he was as good as the best of them when they pulled up. There was a man present who would give £100 for him and he could not get him.

He knew a six-year old horse which was a bad roarer. They had him in harness and they could not let him do six miles an hour up-hill without being in a very unhappy state. He was a terrible roarer, and would become almost suffocated. But he made a considerable recovery, and he (Mr. Howard) used him all last spring. He was doing better than he could do before. Last April the animal went lame, and he turned him out for the summer. He took him in about a month ago, and when he came in he was giddy, and had to be put in the brake. The lads told him afterwards he was as noisy as ever, but he thought the fact was that coming off grass he was not fit, and perhaps got excited in the brake. At the present time he could do ten miles an hour, and Mr. McKenny would not know that he was making a noise. There was no distress now. Mr. Howard said he knew of other cases where improvements had been made although there was one mare which had not improved. All the others had done very well. The majority of them were bad grunters, but the harness horse was not a grunter.

Mr. PATRICK—That seems a common sequel to the operation.

Mr. HOWARD said he was surprised to hear Mr. Allen make a serious mistake about the term "bull." Among the horse world the term "bull" was used in reference to grunters, and not to noise. All bulls did not necessarily make noise.

Mr. DUNLOP said he had read, or glanced at Professor Craig's paper with much pleasure, and he did not think there was anything he had said that could be taken exception to. With regard to heredity he did not think that anyone ever alleged that a foal would be born with the disease, or have the disease before it was born. It is predisposition to roaring that is hereditary. The offspring of roarers are not invariably roarers but there is a general concensus of opinion that roaring is hereditary. Scientists say that we only inherit about one-half of our peculiarities or characteristics from our immediate parents. As a general rule we inherit a quarter from grandparents and oue-eighth from great-grandparents. They rarely found in families that there was an intermediate condition between their parents. Some times they found part of the family taking after the father, and another part after the mother. It was the same in the human subject as in the lower animals. It proved nothing whatever whether a particular horse had a sire or a dam which was a roarer. The general opinion was that it was hereditary. No one alleged however, that the foal was born a roarer. It was the condition that was hereditary. He could not agree agree with Mr. Allen that roaring in its regular form was caused by, or was the immediate consequence of stiffening or rigidity of the larynx. No doubt rigidity of the larynx does occur in some cases where the horse is very old or as a sequel to inflammation. Fifty-four years ago roaring was considered to be due to paralysis of the pneumogastric nerve or recurrent nerve, which led to atrophy of one of the arytenoid muscles. If the free edge of the arytenoid cartilage as a result inclined inwards, the air drawn in forcibly against its edge, it would vibrate, and the more rapidly the air was drawn in, it would tend to cause the cartilage to collapse more and the noise would increase. Not only would the opening be reduced, but the increased current of air would be a further cause of increased vibration. It was right that a young man should be taught to distinguish between high-blowing and roaring. So far as his experience went, high-blowing always took place during inspiration. It was more noticeable in horses that were nervous, particularly when going out on a cold morning. He always noticed in galloping that the moment the fore feet came to the ground this particular sound took place.

He had never known a case of genuine or regular form of roaring to be cured. He had known one case of a horse which was condemned by two Veterinary Surgeons and he was the third. He re-examined the horse when the case came on for trial, and found the horse was sound, so he had to turn against his own side.

Mr. PATRICK—Was anything done meanwhile?

Mr. DUNLOP—There was not. The late Mr. Farrell, 53 years ago passed a horse sound which all the Veterinary Surgeons in Dublin condemned as unsound as being a roarer. He was sent to Edinburgh. Professor Dick gave him a severe trial up a steep hill, and the horse made no noise and he was passed sound. He (the speaker) did not know much about roaring at that time, but he was then under the impression that the Dublin Veterinary Surgeons had forced the horse too much against the bridle until his head was in an unnatural position. I understand Mr. Farrell had put the horse to a severe test, so did Professor Dick. He fancied that sometimes Veterinary Surgeone and a great many dealers pulled the reins too tight and drove the horse against the bridle until the horse made a noise. He could understand that a horse with paralysis of the nostril would make a noise and that would constitute unsoundness while it lasted. He rather agreed with Mr. Howard that what was always known as a 'bull' was a 'grunter.' He always looked upon the 'bull' as a precursor to roaring.

Mr. WILKINSON said that a gentteman had stated that he had examined horses in shows and found them whistlers, and when they went before the referee they were not whistlers. Was that a usual occurrence?

Mr. HOWARD remarked that it was a common occurrence in shows that a horse would be a whistler in the morning, and be passed before night.

Mr. PATRICK stated that he had known a horse that whistled to be passed as sound. They could often examine a horse and find him making a noise and later they would find him sound. He was gratified to hear

the remarks about the roaring operation. He had expressed the same opinion at Ballinasloe and was not agreed with

Mr. HOWARD related a unique case of so-called spasm of the glottis. A mare at Galway last year had been working for some months, and nothing was known to be wrong with her. The mare was working on the tramway, and one day she got in a bad state on the journey to Salthill, and had to be taken out of the tram, and fell down from suffocation. They put her in and nursed her a day or two and then they put her in the tram, and she went a hundred yards and then nearly suffocated. He put a lad on her back and had her jogged up and down the stable yard, and she did not go more than twice when she became very much distressed. Her neck did not appear like that of a 'roarer,' and he could scarcely give any opinion about her. He examined the heart and it seemed to be as sound as they could expect. He treated her with nerve tonics, and had her walked half-an-hour every day. The muscles of the larynx were massaged, and she was as sound as ever. He had seen her do a two mile gallop since.

Mr. PATRICK said he knew a similar case where a horse had actually to be tubed to prevent suffocation, and it recovered perfectly afterwards.

Mr. NORRIS said he knew two cases like Mr. Howard's of bad 'roarers.' One had a tube and the other went along all right. On one or two occasions he had a spasm.

(To be continued).

PERMANENT COMMISSION OF THE INTERNATIONAL VETERINARY CONGRESSES.

A Meeting of the above Commission was held at Baden Baden on the 4th June, 1911, the following members were present: Lydtin (President), Hutyra, M'Fadyean, Degive, Tuleff, Happich, Hess, von Ratz, Kjerrulf, Locusteanu, Schimmel, Barrier, and de Jong, (Secretary).

The agenda for the meeting included the following:

(1) Minutes of the last meeting and report regarding the work of the Bureau.

(2) Information regarding the constitution of the Commission.

(3) Constitution of the Bureau.

(4) Communication of the views and resolutions of the Ninth Congress regarding the work of the Commission and of the Tenth Congress.

(5) Preparations for the Congress in London.

(6) Views and propositions of the members of the Commission.

The President in opening the proceedings mentioned that several members had wished a meeting of the Commission to be held the previous autumn, but the majority had preferred the period of Whit-Monday. In any case it was desirable to meet in 1911 in order to bring definitely to a close the work of the preceding Congress at The Hague. Actually more than a third of the members of the Commission were present, and therefore any resolutions arrived at by the meeting would be valid. The President mentioned the names of members who had excused their absence, and referred in feeling terms to the loss of two honorary members of the Congress, viz., Professor Robert Koch and M. Arloing. He added that, as he was himself ill at the time, he had invited M. Arloing to represent the Commission at the ceremony commemorative of Professor Koch which was held at Berlin in December 1910. Three months later M. Arloing, who was one of the Vice-Presidents, was himself removed by sudden death. In that case the President had represented the Commission at the funeral of their learned confrère.

At the jubilee of Professor Schütz, Professor Hutyra, the Vice-President, had been good enough to represent the Commission, but unfortunately at the jubilee of Professor Dammann no member of the Bureau had been able to go to Hanover to represent them. The President had written to express the sympathy of the Commission with these celebrations.

In conclusion the President stated that in conformity with the statutes of the Commission he had been obliged to decline the request to organise an international congress on the occasion of the Congress of Hygiene at Dresden in 1911.

Passing to the agenda for the day, the President informed the meeting regarding the steps which had been taken in France in order to obtain a worthy successor to M. Arloing. Although the elections ought to be made by the future Congress, the Commission could make a provisional election, and the President was glad to say that M. Barrier was the candidate put forward by the French government and the French veterinary societies.

M. Barrier, having been elected by the Commission, received the congratulations of the President, and in returning thanks said that he would do everything in his power to further the work of the Commission. At the same time he conveyed to the meeting the salutations of M. Chauveau.

Before entering on the discussion of the second subject on the agenda for the day the President said that the Permanent Commission and the Executive Committee were two different bodies, and that it was not necessary that one person should hold the office of secretary to both, although, by an accident, that was the case at The Hague. A divergence of views between these two bodies did not signify an absence of collaboration. At The Hague the Executive Committee had collaborated with the Permanent Commission, and it was the right and the duty of the latter to offer useful criticism. He wished once more to take cognisance of the fact that at The Hague very valuable work had been done in the interests of the profession and of science. What had been done in that connection by the organisers of the Congress merited praise, and he took the opportunity to offer their thanks to MM. Schimmel and de Jong.

M. Schimmel thanked the Commission and also the President and Secretary.

M. de Jong also returned thanks, more especially to the President, who had always seconded his efforts in very difficult circumstances.

The Secretary read the list of the members of the Commission.

On the proposal of the President the third subject on the agenda for the day, viz., the election of the Bureau, was postponed until the afternoon sitting, and the Commission proceeded to consider the fourth subject, viz. the views and resolutions of the Ninth Congress. According to one of these resolutions the Commission had to consider the question of establishing an International Commission for dealing with tuberculosis in animals and eventually to formulate a proposal to the next Congress. The meeting thought it desirable to nominate a reporter to study the question, such reporter to have the right to confer with different specialists. M. de Jong was nominated reporter on the subject.

With regard to the Resolution Section I., III., 9, (disinfection of railway wagons), it was decided to appoint as a committee to consider the subject MM. Hess, Schnürer, and Ostertag, and M. Martel if M. Ostertag did not accept. The report of the meeting of the committee to be presented to the Congress in London.

Resolution Section V., II., (regulations regarding oversea transport of animals). The meeting appointed as a committee MM. Stockman, Rickmann, Hoogkamer, and van Es.

It was decided that the invitations to join these committees should be sent by the Secretary in the name of the President.

The other opinions and resolutions of the Ninth Congress which had a special interest for the Commission or for the future Congress had already been given effect to or they will appear in the programme of the Congress in London.

The President read a telegram from M. Piot excu-ing his absence, and another from the French Minister of The Hague announcing the name of M. Barrier as the French delegate.

At the afternoon sitting of the Commission the first business considered was the election of the Bureau. M. Lydtin, the President, intimated that on account of his age and the state of his health he did not wish to be proposed as a candidate. M. Degive, however, as erted that he was interpreting the views of all present in saying that it would be in the interests of the Congress and of the Commission to re-elect with unanimity their venerated and very active President. In view of the general applause with which this proposal was greeted, M. Lydtin agreed to accept the office of President, and thanked the members for their confidence.

M. Lydtin proposed as Vice-President M. Hutyra, who had already held this office, and whom he designated as his future successor. This was carried unanimously, and M. Hutyra returned thanks. The President had thought of M. Bang as second Vice-President in place of the late M. Arloing, but as M. Bang did not attend the meetings of the Commission he said that M. Degive appeared to be a very suitable candidate, and that perhaps M. Barrier, being French, was still better qualified to succeed M. Arloing. M. Degive advocated the election of M. Barrier, but the latter, while expressing his warm acknowledgments, said that he was the junior member, and M. Degive had the greater right to the office and would be a worthy Vice-President. He therefore proposed M. Degive, and this was carried unanimously.

M. de Jong was selected as Secretary, and M. von Ratz as Joint Secretary and Treasurer. Both of these gentlemen returned their thanks for the honour.

The President then called on Sir John M'Fadyean, who said that certain provisional arrangements with regard to the holding of the next Congress in London had already been made, and that it was his intention to have a meeting called at an early date at the Royal College of Veterinary Surgeons. The question of financing the Congress had been the subject of consideration, and it appeared probable that they would be able to raise the necessary funds. It was their intention to choose the subjects to be discussed at the Congress with every care, and in that connection they would bear in mind the suggestion made by M. Hutyra. He desired to ascertain the views of the Commission as to what would be the most convenient time for holding the Congress. He suggested that the last week in July, which formed the close of the London season, would be the best, or alternatively, the first week in August. He thought that the month of September would be too late. With regard to the funds necessary to carry through the work of the Congress, he mentioned that they would not receive any Government subsidy, but, on the other hand, he believed that the members of the profession in Great Britain would subscribe liberally. The Commission resolved to fix provisionally the date of the Tenth Congress for the end of July or the beginning of August 1914, and the President thanked Sir John M'Fadyean for the information which he had given them.

The President then called on M. de Jong, who wished to raise a question of much importance.

The accounts of The Hagne Congress would probably show a surplus of about 2,500 Dutch florins—a result which was due to an extraordinary subsidy which the Dutch Government had given to the Executive Committee, fearing that the ordinary grant would be insufficient. The idea had occurred to the Executive Committee at The Hague to take the necessary steps in order that this sum might be available for the Permanent Commission, and more especially for the Secretariat. The latter might be fixed at The Hague, following the example of the Permanent Commission of the International Medical Congresses. The Hague was becoming more and more the seat of international corporations, and it seemed to be in the interests of the organisation of the Permanent Commission and of the International Congresses that the Secretariat and the archives should be located in some definite office and place. If the Government of The Netherlands were disposed to favour the idea of obtaining an office at The Hague, and at the same time the functions of a Secretariat, the Executive Committee of the Congress would probably have handed to them the surplus of 2,500 florins to be employed in paying the first cost of the installation of the Secretariat. All that would be in the interests of the Commission, which would then have obtained a special office for its Secretariat, while the latter would possess its own proper premises under the patronage of the Dutch Minister of Agriculture.

In reality, the Netherlands Minister of Agriculture was disposed to favonr the idea, and he had authorised M. de Jong to say that if the Secretariat of the Permanent Commission were installed at The Hague His Excellency would give his patronage to it, and also to the meetings of the Commission in the event of these being sometimes held at The Hague. Subject to the same conditions, the Executive Committee of the Congress would place the sum of 2,500 florins at the disposal of the Permanent Commission.

The Minister would also put at the disposal of the Commission an office in which would be deposited its archives and its library, and in case of any meetings of the Commission being held at The Hague the necessary accommodation would also be provided. The Minister would also extend his patronage to the correspondence of the Commission if the latter required his support. But, apart from such support, the Commission would remain independent in its divisions and movements.

Unfortunately, although the initial proceedings in the matter had been taken some months previously, His Excellency's letter was not received until the 31st May, and thus had only been in possession of the Secretary for four days. There was therefore absolutely no time to have the question placed on the agenda. That, however, did not appear to be indispensable, in view of Article 13 of the Statutes of the Commission, which allowed them to consider propositions which were not idcluded in the programme of the meeting provided they receive the support of a third of the members present. The Secretary stated that he had that day communicated his idea on the subject to the President, and as a result of the conversation he had the honour to move the following propositions :—

(1) That the Permanent Commission approve of the formation of a Secretariat as a permaneut institution, possessing its own office and funds, and, if necessary, its own staff.

(2) That the Commission accept the offer of the Executive Committee of The Hague Congress to employ the surplus from the Ninth Congress for the installation of the Secretariat at The Hague.

(3) That, subject to the approval of the Governments who have sent delegates to the Commission, the Commission accept the offer of the Minister of Agriculture for tne Netherlands to patronise the installation of the Secretariat at The Hague, especially in the interests of international correspondence.

M. Barrier enquired whether in accepting the proposition the Commission would remain independent, and if the funds necessary for the correspondence would be at the disposal of the Commission. M. de Jong replied in the affirmative.

M. Hutyra, while recognising the advantages of the

proposition, thought that they could not deal with the matter since it had not been put on the agenda for the meeting. They had to consider three questions: (1) Whether it was necessary for the Commission to have a fixed office; (2) if so, in what town; and (3) if the Government who had sent delegates to the Commission would be in favour of the proposition. He himself had no authority from his Government on the question, and therefore he could not vote on the matter. He begged the Dutch delegates, in the first instance, to circulate their proposition to all the members of the Commission, after which the matter could be discussed.

In the course of the discussion which followed, MM. Hess, Kjerrulf, and M'Fadyean said that they also had no power to vote on the proposal, as they had received no definite mandate from their Government. M. Degive said that he was not quite clear as to what would be the consequences of the proposition.

The President then put to the vote the question: "Is there any opposition to the formation of a fixed Secretariat?" The result was that seven members voted for a fixed Secretariat, four against it, and two members did not vote. M. Hutyra then brought forward his proposal that the question should not be considered until after notice had been given to all the members of the Commission. This motion was rejected—six voting for and seven against it. The President then put separately to the vote the three parts of the proposal of M. de Jong, with the following results:—

The first part was accepted by seven votes and six abstentions.

The second part was accepted by six votes and seven abstentions.

The third part was accepted by seven votes and six abstentions.

Thus the whole of the proposal was carried. Several of those who had abstained from voting declared that personally they were in favour of the proposal.

The programme of the meeting being now exhausted, the President thanked the members for their attendance, and the sitting came to a close after M. Barrier, on behalf of the members, had in very cordial terms thanked the President for his services in the chair.

DR. LYDTIN, *President.*
D. A. DE JONG, *Secretary.*

Veterinary Science—An Appeal.

In 1790 the Odiham Society of Agriculture in Hampshire appointed a committee "to consider the best method of improving the art commonly called Farriery," and during the following year founded the Royal Veterinary College, which acquired its present site at Camden Town in 1792, when the first students were enrolled. The fees were fixed at twenty guineas for the sessional year, and have remained at that figure ever since. At the commencement of its existence, the College had to rely on donations and subscriptions, supplemented by the small amount of students' fees, for the acquisition of a site, building operations, and the remuneration of the staff. But in 1795 Parliament, in recognition of the national character of what was being done, made an annual grant of £1500, which, however, was withdrawn in 1815, and no further State aid was given until 1906. During the first half of the last century the College discharged the double function of a teaching and an examining body; but in 1844 an agitation arose amongst veterinary surgeons, and they were incorporated by charter as the Royal College of Veterinary Surgeons. That College is still often confounded with the Royal Veterinary College, to which it really stands in much the same relation as the Royal College of Surgeons does to the different hospitals. It fixes the terms and standard of veterinary education, and prescribes the period of study, but is not itself a teaching body: it conducts the examinations and grants the veterinary diploma, thus holding the door of admission to the whole profession, and being in fact the only portal through which the veterinary surgeon can pass. In 1881 the Veterinary Surgeons Act, which is somewhat similar to the Medical Act, was passed, making it an offence for any one to call himself a veterinary surgeon without the diploma. The amount of knowledge required to pass these examinations represents merely the *minimum* attainments considered necessary for those who are to engage in veterinary practice; and the Royal Veterinary College has constantly had to extend its operations.

In an endeavour to meet the new requirements the Governors between the years 1890 and 1894 spent nearly the whole of the accumulated funds of the College (about £13,000) in building and equipment, while the teaching staff has been gradually increased until it now numbers nine professors and five qualified assistants. The course of instruction covers four years, and students are prepared for the degrees of Bachelor of Science and Doctoor of Science and Veterinary Science at London University. This has entailed considerable additional expense, and, if the work of the College had to be curtailed, the preparation of students for these degrees would be the first thing to be given up. There is also a Post-graduate course in veterinary pathology and bacteriology, with an average attendance of 40 students during the past five years. This is one of the most important services rendered by the College, and, had it not undertaken it, the standard of veterinary science in Great Britain must necessarily have been much lower than it is at present. The course, moreover, is of particular value in qualifying men for the Colonies.

The Present Position.

Unfortunately the position of the College to-day is somewhat critical. It depends entirely upon voluntary subscriptions or donations, an annual grant of £500 towards the expenses of the Department of Comparative Pathology and Bacteriology, and a grant of £1300 a year from the Board of Agriculture. The grant of £1390 from the Development Fund is ear-marked for the expenses incurred in experiments and not for remuneration, mainly in vaccination with relation to tuberculosis, and has imposed extra work upon the staff. Sir John M'Fadyean, the Principal, having himself frequently to travel about the country in connection with experiments. It is impossible to raise the fees, as the students are the sons of men of very moderate means, and the number of students is tending to decrease. The prospects of the profession are not nearly so good as they were a few years ago, owing to the introduction of motors, and the consequent diminished demand for horses, whose treatment constituted the most profitable part of a veterinary surgeon's practice. An appeal to the Government is therefore imperative, and their attitude compares most unfavourably with that of the Government in other countries. In Prussia, for instance, the State expended £12,000 upon building a veterinary college, and makes an annual grant of £5,600; in Saxony £90,000 was spent on building, and the annual grant is £6,400; in Bavaria £57,000 on buildings, with an annual grant of £10,000; in Hanover £150,000 for buildings, and the annual grant is £3,650; in Würtemberg £36,000 on building, and a grant of £4,550; in Holland the Veterinary College at Utrecht has an annual grant from the Government of £7,125. The indifference of the present Government to England and Wales is all the more remarkable in view of the substantial assistance already given to Scotland and Ireland. Under Section 16 (1) (*a*) of the Agriculture and Technical Instruction (Ireland) Act of 1899, a sum of £15,000 was applied for the purpose of providing suitable buildings, fittings, and appliances for the Royal Veterinary College at Ballsbridge. This sum was supplemented by a fur-

ther grant of £12,350 from the endowment fund of the Irish Department of Agriculture.

With regard to Scotland, £5,000 has already been given as a capital grant to the College in Glasgow, and £20,000 is to be given to the Royal (Dick) Veterinary College in Edinburgh. It is probable also that both Colleges will be assisted by the Development Fund.

For this differentiation in the aid given to particular parts of the British Empire there is absolutely no justification. The public here, moreover, hardly yet realise the supreme importance of veterinary science. The veterinary profession is the servant of agriculture, and it is essential to the welfare of agriculture that it should be composed of men as thoroughly educated as possible. But it is not merely in the industrial and commercial interests of the stockbreeder, the farmer, and the small holder that this is necessary. The health of the whole community depends upon the elimination of all risk of its contracting disease from animals, and upon the quality of the food which it consumes. Protection in both of these directions can alone be secured by means of veterinary knowledge. New problems are constantly cropping up; and it may safely be asserted that there is no disease affecting animals which does not stand in need of further investigation. This is the indispensable antecedent to all preventive and remedial measures.

It is true that we have not, and are never likely to have, complete and absolute knowledge of the pathology of any disease; but science can enable man to control most diseases, even if they are not wholly eradicated. Scientific investigation has, for example, caused outbreaks of glanders to be substantially decreased during recent years by the mallein test. On the other hand, there has been a very decided increase in the numbers of outbreaks of anthrax.

All this points to the urgent necessity for more systematic inquiry. The ground to be covered is too vast for the machinery that exists at present. We still know very little about anæmia in sheep, as is evidenced by recent correspondence in *The Times*. Is the disease due to a minute threadworm, or anæmia pure and simple? Is the emaciation caused by anæmia or by parasites? The disease, too, which was first described by Johne, and is named after him, has lately received a good deal of attention in various parts of the world. It is a chronic inflammation affecting the internal coats of the intestine (enteritis) in cattle, and was first discovered in England by Sir John M'Fadyean about five years ago. Much more intimate knowledge of the pathology of this disease, both by experiment and field observation, is needed to ascertain how far affected animals react to tuberculin prepared with the bacillus of Avian tuberculosis. Again, it is impossible to eradicate a disease like sheep-scab without closely studying its epizootiology. It is not until a campaign of eradication has been undertaken that the veterinary surgeon can determine what seem to be errors or insufficiences in the classical parasite, the development of the disease, and the effect of remedies. No expenditure can be deemed too great to ensure immunity from these various diseases.

Much doubtless can be effected by the judicious expenditure of the £50,000 per annum out of the Development Grant but this is to be applied solely to various forms of agricultural research. The Board of Agriculture has already determined the eleven subjects for which the grants are to be made, and there is nothing to indicate what sums will be available for veterinary science. In any event it seems impossible for the Royal Veterinary College to receive any aid towards building or maintenance.

The Urgent Need.

The fact has to be faced that veterinary education cannot be self-supporting. The Royal Veterinary College has reached the limit of its resources. There is an increased demand for Veterinary Surgeons in connection with the Diseases of Animals Acts, but it is not easy to see where they are to be obtained. It has become increasingly difficult to satisfy the needs of the country, besides providing for the Colonies, where the best veterinary work has been done by men trained at the College. The whole economic and industrial development of the Protectorates in Africa will depend upon the supply of men qualified to control or subjugate the diseases of animals there Nor must the requirements of the Army be overlooked. All military veterinary surgeons have to study at one of the veterinary colleges, after which they receive a little special training in the particular duties pertaining to the Army. Mention should also be made of the out-patients' clinique at the Royal Veterinary College, which does so much by way of advice or treatment for the poor owners of horses or donkeys. In the course of last year 4,855 individual cases were brought to the College, and, as several of these had to pay more than one visit, the total number of inspections amounted to 6,970. In the Research Laboratory, towards the expenses of which the Royal Agricultural Society are giving a grant of £200 for three years, there were complete or partial post mortem examinations of 688 animals, while 952 animals were under treatment in the infirmary.

These figures illustrate the manifold activities of the College. If veterinary education is to attain the standard which it has already attained in most countries, it is absolutely necessary for the Government to aid it upon the same scale as do other Governments. It would be a national disgrace if there were no continuous advance in veterinary knowledge here, and we had to depend upon the research and experiments of Continental veterinary colleges.—*The Times*.

The Protection of Animals Act.

The Protection of Animals Act. 1911, which was introduced in the House of Commons by Mr. George Greenwood, a member of the Council of the Society for the Prevention of Cruelty to Animals, came into force on January 1st.

The Act was drafted by the Society, with the assistance of Mr. Greenwood and the Rev. the Hon. W. E. Bowen. It consolidates the statutes which deal with cruelty to animals, and contains many amendments which have been proved to be necessary. The measure relates to both domestic and captive animals. It will be an offence in future cruelly to beat, kick, ill-treat, over-ride, over-drive, overload, torture, infuriate, or terrify any animal or to cause or permit any of these acts to be committed. The *maximum* fine is increased from £5 to £25, and the imprisonment, which may be alternate or additional to the fine, is increased from three months to six months, with or without hard labour. Owners who by failing to exercise reasonable care and supervision permit any unnecessary suffering to an animal are liable upon conviction to a fine of £25.

The Court may order the destruction of an animal, when the owner is convicted of cruelty, on being satisfied that it would be cruel to keep the animal alive. The Court, when convicting the owner, may, upon proof of a previous conviction or upon evidence that further cruelty may be inflicted, deprive him of the possession of the animal. This last amendment is due to the National Canine Defence League, and was moved by Lord Leigh, when the Bill was in the House of Lords.

The Act contains a set of regulations to be observed by knackers all over the country. In these regulations it is laid down that the slaughter of all animals disposed of to a knacker must be carried out within two days; that children under 16 years of age shall not be allowed in the slaughter yards, and that no animal must be

killed in sight of another animal. A clause in the Act also provides that no knacker may act as a horse dealer. This is an important provision, for it prevents horses which have been sold for slaughter from being disposed of for draught or other purposes.

It is provided that steel traps set for hares and rabbits shall be inspected at reasonable intervals, and at least once a day between sunrise and sunset. Employers are compelled to produce employees against whom proceedings are taken, and also to produce the animal which is the subject of a charge of cruelty. Power is given to the Court to forbid the sale of, or parting with, an animal pending the determination of an appeal from a conviction, and the definition clauses are considerably extended in respect of all domestic and captive animals. The period within which proceedings may be taken has been extended from one month to six months.

The Act does not apply to Scotland.

Personal.

At a general meeting of the Council of the County Borough of Stoke-on-Trent, held on Thursday, Dec. 21st last, Prof. W. T. WILSON, F.R.C.V.S., Member Royal Sanitary Institute, was appointed to visit and examine all the cows and cowsheds within the County Borough, with special regard to tuberculosis of the udder, and to examine microscopically all suspicious milk.

ARMY VETERINARY SERVICE.

WAR OFFICE, WHITEHALL, Jan. 2.

Lieut. E. C. Doyle has been transferred from Colchester to Norwich.

The following officers embarked at Southampton on 3rd January, 1912, in Transport "Rohilla" for a tour of service in India :—

Captains E. C. Orton, W. A. Jelbart, R. C. Matthews, W. M. Millar, W. Ludgate, R. Porteous.

"PUPPY WORM CAPSULES."

Sir,

I should be much obliged if you would bring before the notice of the profession a type-written letter and sample of pills which I believe has been sent by a certain quack medicine firm to a great number of members of the profession. I have received this letter and a sample of pills. Their excuse for sending them highly amused me. They state: "We offer them at the low price of 15s per thousand; our reason for so doing being that owing to a misunderstanding 100,000 of these capsules were made of the wrong shape. so that we are unable to make use of them in the ordinary course of our business."

May I ask. is the veterinary profession going to be made a receptacle for their cast-off rubbish? Are we going to prescribe patent medicines, not knowing their contents? Are we to believe that this is not one of the common up-to-date advertising tricks, which are so common nowaday? I consider the latter part of the letter confirms this idea.

Yours truly, JAS. T. ANGWIN.

Arundel, Sussex. Dec. 21.

"Dear sir,

We are taking the liberty of sending you under separate cover a sample of Puppy Worm Capsules, and should esteem it a favour if you would give them a trial in your practice.

We guarantee them perfectly safe to give to the smallest and most delicate puppy, and you will find them most effective.

We offer them at the low price of 15s. per thousand, our reason for so doing being that owing to a misunderstanding 100,000 of these capsules were made of the wrong shape, so that we are unable to make use of them in the ordinary course of our business.

Should you find them satisfactory in every respect, as we are confident you will, and decide to use them, we undertake to supply your future requirements of these capsules at the same price as we now offer them."

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.	Anthrax. Outbreaks Confirm'd	Anthrax. Outbreaks Reported	Anthrax. Animals Confirm'd	Anthrax. Animals Reported	Foot-and-Mouth Disease. Outbreaks	Foot-and-Mouth Disease. Animals.	Glanders (including Farcy) Outbreaks	Glanders (including Farcy) Animals.	Counties Affected Animals Attacked	Sheep Scab. Outbreaks	Swine Fever. Outbreaks.	Swine Fever. Slaughtered. *
GT. BRITAIN. Week ended Dec. 30	22		28				4	8		26	39	620
Corresponding week in 1910		30		31			6	13		35	34	456
Corresponding week in 1909		23		23			7	14	Kent 5	23	14	16
Corresponding week in 1908		20		21			10	22		38	27	84
Total for 52 weeks, 1911	907		1120		19	487	208	501	London 3	434	2466	30434
Corresponding period in 1910		1465		1735	2	15	346	1008		514	1561	15123
Corresponding period in 1909		1317		1698			533	1753		685	1650	14316
Corresponding period in 1908		1105		1419	3	112	789	2433		849	2067	14096

Board of Agriculture and Fisheries, Jan. 2, 1912.

	Parasitic Mange (outbreaks)									
IRELAND. Week ended Dec. 30	...	...	...	...	...	...	2	9	1	3
Corresponding Week in 1910 ...	..	...	...	...	...	...	...	11	1	74
Corresponding Week in 1909 ...	...	...	...	...	...	...	...	7	...	...
Corresponding Week in 1908 ...	1	1	...	...	...	...	1	20	...	34
Total for 52 weeks, 1911 ...	9	16	...	...	2	3	60	342	174	2566
Corresponding period in 1910 ...	7	13	...	...	1	2	65	467	96	2226
Corresponding period in 1909 ...	8	8	...	...	...	...	75	424	88	1570
Corresponding period in 1908 ...	8	11	...	...	...	...	40	382	159	3625

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Jan. 1. 1912

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection